

Trees and
Flowers
of
ENGLAND
AND
WALES.

ILLUSTRATED
GUIDE



H. G. Jameson.

**ILLUSTRATED GUIDE TO THE TREES
AND FLOWERS OF ENGLAND
AND WALES.**

2ND EDITION.

ILLUSTRATED GUIDE
TO THE
TREES AND FLOWERS
OF
ENGLAND AND WALES.

BY
H. G. JAMESON, M.A.

SECOND EDITION, REVISED AND CORRECTED, WITH NEW
REFERENCES AND INDEX.

"We do not know a thing properly until we know its name."
(PROF. GEORGE CROOM ROBERTSON).

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INTRODUCTION.

PART I. PLAN OF THE BOOK.

This book is intended to help the ordinary nature-lover, who may perhaps have little or no special knowledge of botany, to find out the names of such trees and flowers as he meets with. If, knowing the name, he will turn for further information to one of the larger works mentioned below, so much the better, but the name must come first. With plants, as with human beings, the first step towards a friendship, with all its future possibilities of interest and delight, is to learn your friend's name. No doubt even ignorant people get some sort of enjoyment out of nature, but it makes all the difference in the world to the pleasure of a country walk when, on every hedge-bank and in every ditch, we catch sight of familiar acquaintances, which we have learnt to greet by name, and to recognize as friends.

The method of using the illustrated "Key" is explained in Part IV. Of course, several Keys exist already, such as the excellent one in BENTHAM'S "British Flora," but these are mostly couched in very technical language, and often presuppose more skill and experience than the beginner has at his command. In the present work technical terms are avoided as far as possible, and the Key is founded on plain and easily observed characters, and such as do not involve dissection.

But the special feature of the book lies in the illustrations accompanying the text, which help to make its meaning clear at a glance. These figures are necessarily very small, and do not pretend to be complete pictures of the plants, but simply to illustrate the special characters used for the Key. By far the greater number of them were drawn direct from nature, for the particular purpose to which they are here applied.

The method of the Key allows the groups of Trees and Shrubs, and the Aquatic Plants, to be treated by themselves, and thus makes it possible to identify most of these without depending on their flowers, which are so often difficult to examine, or absent.

In short, the book aims especially at being practical, without, it is hoped, forfeiting all claim to be scientific. It tries to help the learner very much as a botanical friend might do, by pointing out, to the eye and the understanding at once, such characteristics as are found, by actual experience, to be easily recognized and remembered.

It is possible that some of those who use this book will be afraid of the "Latin names" of the plants. Whenever, therefore, a plant has a colloquial name of its own, this is added in italics. The student is strongly recommended, however, to make himself familiar with the proper botanical names. These are really no more difficult to learn than the names (mostly Latin or Greek words) given to human beings, and serve the same useful purpose of calling attention to their relationships. Thus the name, **Viola tricolor**, of the *Pansy* or *Heartsease*, shows at once that it belongs to the same genus as **Viola odorata**, the *Sweet Violet*, and **Viola canina**, the *Dog Violet*. In this important respect the popular names are, unfortunately, singularly misleading. The *Dog Violet*, the *Water Violet*, and the *Dame's Violet*, for instance, instead of belonging to the same genus, as the names would seem to imply, are scarcely even distantly related to each other. It is no doubt convenient to have these familiar names for the more common plants, just as we often use nicknames for our more intimate friends, but we should know the real name as well.

The nomenclature employed in this book is that of BENTHAM and HOOKER'S "British Flora," by far the most useful textbook for the amateur botanist. The index, however, contains such synonyms as are likely to be met with, in case other works are used. All trees and flowering plants admitted by Bentham as English or Welsh (except the Grasses and Sedges, which are omitted, as too difficult for a work of this kind), are included, so that the collector who comes across a rare plant (and most rare plants are common in some locality or other) will not find himself left in the lurch just when he most wants help.

PART II. COLLECTION AND EXAMINATION OF PLANTS.

It is seldom necessary (except for Herbarium specimens) to pull a plant up by its root. The portion gathered for examination, however, ought to include both leaves and flowers (with fruit, if present), together with enough of the stem or branch to show how the leaves are arranged on it and attached to it. If there are leaves at the base of the plant which evidently differ from those on the stem, some of these should be taken, and tied to the rest of the specimen. Many of the trees and aquatic plants, however, may be identified from a specimen with leaves only, without any flowers, though of course these should be gathered when present. In all cases a knife does less damage than pulling with the hands, while for water plants a hook at the end of a stick, or even a

small grapnel with a string attached to it, may save the necessity of wading. The specimen, when gathered, should be put at once into a tin "vasculum," or sandwich-box, and, if the bottom of this is previously covered with a piece of wet blotting paper, even delicate flowers will remain unchanged for many hours.

In examining the specimen with the following Key it is only rarely that any kind of dissection is necessary, but a small, fine-pointed pair of dressing-forceps, such as most chemists supply, is a very handy instrument for poking about with, especially if a flower obstinately shuts itself, or some small structure has to be pulled aside for a clearer view. An even more important adjunct is a magnifying glass, without which the details of small flowers, or the hairs on the surface of leaves, etc., cannot be satisfactorily seen. It should be remembered that, as a rule, the smaller the lens the more it magnifies. One of about an inch and a half focus is the most useful for general work, and may cost anything from sixpence upwards. Some details can only be seen "against the light," *i.e.*, when the object is viewed as a transparency, with the light behind it.

PART III. EXPLANATION OF THE TERMS USED.

The student should read through this section carefully before trying to use the Key, and should make sure that he knows the names of the different parts of the flower, and understands the meaning of opposite leaves, leaflets, stipules, and bracts. The other terms, when they occur in the text, are generally made clear by the figures which accompany it.

The following general terms are in frequent use.

A **segment** is a part of any structure which is more or less completely divided off from the rest. It is an intentionally vague and comprehensive term, including such parts as are almost completely severed, as well as those which are divided by a mere notch.

The **base** of any structure is always the part nearest to its attachment, or stalk, even if it hangs vertically downwards so that the base is at the top. The **apex** is the opposite end to the base.

Distinct, in this book, always means evident, or plain (not necessarily divided off, for which the term "separate" is used).

In the short descriptions of the leaves, flowers, and fruit, only the terms illustrated on the two following pages are used, and some, even of these, almost explain themselves.

The **leaves** always spring from the stem or branches. Not infrequently, however, some, or even all of them, arise from the

extreme base (apparently from the root) of the plant, and these are called **root-leaves**. The leaves on the stem and branches are variously grouped, two well-marked arrangements being specially distinguished in the Key, namely, **opposite leaves**, which spring in pairs at the same level (whatever shape they may be, and whether with or without stalks, simple or much divided, etc.), and **leaves in whorls** (*i.e.*, rings or circlets) of three or more at one level.

The leaves themselves, as regards their outline, may be **entire** (always meaning, in this book, without teeth or divisions of any kind), or **toothed**. When the indentations are larger than mere teeth, the leaf is said to be **lobed**, the lobes being sometimes themselves toothed, or again divided. When the divisions are so deep as to reach to the stalk or mid-rib the segments are called **leaflets**, two or more leaflets making up, between them, a single leaf.

The leaf may have a single **mid-rib**, with **lateral nerves** diverging from it, and usually dividing up into still smaller nerves or veins, or there may be **several longitudinal nerves**, sometimes parallel, and sometimes curving inwards.

The base of the leaf is **heart-shaped** when it is indented at its point of attachment, with wide projections on either side. **Auricles** are narrower and more pronounced projections of the base.

Stipules are small, leafy or tooth-like structures, found, in some plants, at the base of the leaf-stalk.

Hairs are said to be **glandular** when they have little swellings, often sticky, at their tips.

Bracts are leaves (usually smaller or differing in shape from the rest) under a flower or a flowering branch. When the flowers are in a compact head, the head is often surrounded by numerous bracts, more or less overlapping each other.

The essential parts of the **flower** are those at its centre, namely the **stamens** (*a*), each consisting of a stalk or **filament** (*b*), bearing the **anther** (*c*), which contains the pollen; and the **ovary** (*d*), or **ovaries** (*e*), with one or more hairy or sticky **stigmas** (*f*), sometimes borne on a stalk or **style** (*g*).

Either stamens, or ovary, or both, are present



in all flowers, and are usually surrounded by either one or two protecting structures. When there are two, the outer one is the **calyx**, usually green, made up of **sepals** (*a*), and the inner the **corolla**, usually white or coloured, composed of **petals** (*b*). When the sepals are united in one piece they are called **calyx-teeth** or **lobes** (*c*), and the petals are often similarly joined in a **toothed** or **lobed** corolla (*d*).

The neutral term **flower-segments** is used to include both calyx and corolla, as well as for those cases in which there is no distinction between the two, but all the segments are of one kind.

The flower is **irregular** when, instead of having the segments arranged evenly round the centre, it is evidently one-sided, or has one or more segments differing markedly from the rest. A segment hanging down below the others, as in *Orchids*, is called a **lip** (*e*), and flowers like the *Dead-nettle* or *Snap-dragon* are said to be **two-lipped** (*f*).

Flowers may be solitary, or variously clustered, two special forms being distinguished in this book, viz., the **umbel**, in which the flower-stalks spring three or more together from a common stalk or branch, and the **head**, in which the flowers are crowded together, almost without separate stalks, at the (often dilated) end of a common flower-stalk. In many cases, such as the *Daisy* or *Dandelion*, the flower-head, surrounded by its green bracts, looks somewhat like a single flower with an enclosing calyx, but the lens shows the numerous minute flowers, which, in such cases, are usually called **florets** (*g*).

After the flower fades, the ovary (sometimes with other structures fused with it) ripens into the **fruit**, which encloses the seeds. The fruit may be soft and fleshy, as in pears or berries; or dry and hard, as in nuts, many pods, or the minute fruits (often mistaken for seeds) which bear the "thistle-down" at their summit.

Winged fruits are those which have part of their margin very thin or quite membranous, allowing them to be carried by the wind.

Wings on the stem are similar thin expansions, either projecting from the angles of a square stem, or running down from the base of a leaf.



PART IV. HOW TO USE THE KEY.

Supposing the student to have gathered a specimen quite unknown to him, he will turn first to the General Key on page 1, and determine under which of the Sections he is to look for his plant. If, to take a simple example, he has a spray of *Elder*, he will at once see that it should be looked for under section A., "Trees and Shrubs." Turning to page 3, he finds two alternatives joined by a bracket, "Leaves made up of separate leaflets," and (at the bottom of the page) "Leaves not of separate leaflets." As his leaves have several leaflets, he goes on under the first heading, and has to decide between "Leaves opposite," and "Leaves not opposite." Proceeding under "Leaves opposite," he recognises successively that the leaves of his plant are not entire (having numerous teeth), and that the lower pair of leaflets are stalked and the flowers white, and that his plant is therefore ***Sambucus nigra***, the common *Elder*.

He will soon become familiar with the different Sections, and will find that, in the few cases where he is in any doubt under which of them he should look, his plant may be found under either of the doubtful alternatives.

He must remember, however, always to take the Sections in order. The common *Honeysuckle*, for instance, will not be found among the irregular flowers, under section F., because it had been already included, as a climbing plant, under Section A., and similarly the *Water-lily* will not be found under Section J., because already dealt with as an aquatic plant under Section C.

In the example given above the student was led, in one of the Sections of the General Key, to the name he required, that is to say the name of the particular kind, or "species," of plant which he had gathered. Such names always consist of two words, the first being the name of the "genus," and the second the "specific" name proper, which distinguishes the particular species from all the rest grouped together under the same genus. The generic part of the name always begins with a capital letter, and the specific part (which is most commonly an adjective) usually begins without a capital. In some cases, however, as where a plant is named after a person, or where the old substantive name is used as a specific name, a capital is employed.

In many cases the search under the General Key will only result in a name consisting of a single word. If this is

printed with only one capital letter, it is the name of a genus, and the student must turn to where it comes, in alphabetical order, among the generic Keys commencing on page 63, in order to find out the specific name. Thus supposing, in the former example, the General Key had only given him the name **Sambucus**, he would turn to page 119, where the generic Key would bring him to the specific name **nigra**, the complete name he requires being therefore **Sambucus nigra**. If the name is printed entirely in capitals, it is that of one of the families or "Natural Orders" under which the genera are classified. For the purposes of this book it has been, in many cases, convenient to ignore the Natural Orders, and go direct to the genera, but some of the larger or more well-marked Orders are analysed separately, so as to relieve the General Key, and these are arranged alphabetically, beginning at page 33.

After a little practice the student will learn to recognize at a glance the plants belonging to such Natural Orders as **CRUCIFERAE**, **UMBELLIFERAE**, **COMPOSITAE**, **LABIATAE**, **ORCHIDACEAE**, etc., or to several of the larger genera, and will be able to turn to these at once, without the labour of going through the General Key first.

The numbers following the names of the Natural Orders (pages 33 to 61), and Genera (pages 63 to 136), as well as those in the Index, refer to the pages in the earlier part of the Key where the distinguishing characters of each are to be found.

After this edition was already in type, a new edition of BENTHAM AND HOOKER'S "British Flora" has appeared, edited by Dr. RENDLE, in which a few of the specific names have been changed in deference to the rule of priority. It is impossible, even if it were desirable, to alter these names here. As, however, the names used in the former editions of BENTHAM, and adopted in this book, are in all cases added as synonyms in Dr. RENDLE'S edition, there need be no difficulty for those who use the two together.

ERRATA.

PAGE 59 : lines 22 and 23, *for* "not stalked, toothed or cut" *read* "toothed or cut, not stalked."

PAGE 73 : line 29, *for* "(pappus not feathered)" *read* "(pappus feathered)."

PAGE 87 : line 27, *for* "Carpels not wrinkled, hairy or downy" *read* "Carpels hairy or downy, not wrinkled."

GENERAL KEY.

Trees, shrubs (with woody stems and branches), and **climbing plants** (whether woody or not).

Sect. A. (page 3).

Herbs (or weak, prostrate undershrubs).

Leaves in one or more "whorls," or circlets, of 3 or more at the same level on the stem or branches.

Sect. B. (page 9).

Leaves not in whorls.

Aquatic plants, with floating leaves, or entirely submerged, or swimming on weak stems in water (only the flowers sometimes raised above the surface).

Sect. C. (page 11).

Terrestrial or marsh plants (or shore plants, sometimes spreading down into the water, but with the leafy stems erect and emerging).

Flowers with 3 outer segments and 3 inner, or with **3 or 6 more or less similar segments** or teeth.

Sect. D. (page 14).

Parts of the flower not so numbered.

Flowers in heads or umbels, *i.e.*, either crowded, without separate stalks, on dense rounded or flattened flower-heads, or on stalks (or little branches) which spring 3 or more from the same point, in an "umbel" (*a*).

Sect. E. (page 17).

Flowers not in heads or umbels.

Flowers irregular or spurred, *i.e.*, evidently one-sided, or with one petal or segment differing from the rest, or with a single spur-like or pouch-like projection at the base.

Sect. F. (page 19).

Flowers with the petals or segments regularly arranged round the centre.



[**Flowers greenish, or scaly, or membranous, without**
any white or coloured petals (or petal-like seg-
ments). **Sect. G.** (page 22).]

[Flowers with some or all of the segments white or
coloured, and petal-like.

[**Calyx absent, or of 2 sepals** or segments only, or
(if present) with all its segments white or coloured,
and petal-like. **Sect. H.** (page 24).]

[Flowers with a distinct calyx (with more than 2 seg-
ments or teeth) and corolla.

[**Corolla-segments united** more or less completely
in one piece. **Sect. I.** (page 26).]

[**Corolla with the petals separate** and distinct to
their base. **Sect. J.** (page 29).]



Sect. A. TREES, SHRUBS, AND CLIMBERS.

Leaves (some of them) made up of separate leaflets.

Leaves opposite.

[Leaflets entire, or with a few coarse teeth or lobes ;
flowers white ; fruit feathery.]

Cle'matis Vital'ba. *Traveller's Joy.*



[Leaflets edged with numerous small teeth.]

[Lowest pair of leaflets shortly stalked ; flowers
white ; fruit a berry.]

Sambu'cus ni'gra. *Elder.*



[Leaflets all without stalks ; flowers greenish and
inconspicuous ; fruit winged.]

Frax'inus excel'sior. *Ash.*



Leaves not opposite.

[Leaves more than once divided ; flowers with a
pouch at their base.]

FUMARIA'CEAE.



[Leaves with only 2 or 3 leaflets, or with a single row
on each side of the stalk.]

[Leaves ending in a tendril ; flowers irregular,
Pea-flower-like.]

PAPILIONA'CEAE.



Leaves without tendrils.

[One large leaflet, with one or more very small
ones below ; flowers purple.]

Sola'num Dulcama'ra. *Bittersweet.*



[Leaflets similar ; flowers not purple.]

[Leaves (or some of them) with more than 3
leaflets ; flowers with
5 similar petals.]

ROSA'CEAE.



[Leaflets 3 only.]

[Leaflets very small, entire ; flowers yellow.]

Cyt'isus scopar'ius. *Broom.*



[Leaflets toothed ; flowers white or pink.]

[Leaves with wide, toothed stipules ;
flowers irregular.]

Ono'nis arven'sis. *Restharrow.*

[Stipules small and narrow ; flowers with
5 similar petals.]



Ru'bus.



Leaves not composed of separate leaflets.

{ Either the twigs or the leaves prickly, or with hard, stiff, thorny points.

{ Leaves entirely replaced by green spines ; flowers irregular, yellow.

U'lex. *Furze, Gorse.*



{ Leaves (or flat, leaf-like organs) present.

{ Leaves ending in a stiff, prickly point.

{ Leaves, at least the lower ones, with spinous teeth on margin. **I'lex Aquifo'lium.** *Holly.*



{ Leaves with entire margins.

{ Leaves ("phyllodes") oval, bearing little flowers on their flat surface.

Rus'cus aculea'tus. *Butcher's Broom.*



{ Leaves narrow, in whorls or circlets of 3 together on one level.

Junip'erus commu'nis. *Juniper.*



{ Leaves not prickly.

{ Leaves entire or finely toothed (not lobed).

{ Leaves not over $\frac{1}{2}$ inch long ; flowers irregular, yellow.

Genis'ta an'gica. *Needle Furze.*



{ Leaves longer ; flowers regular.

{ Spines mostly 3- or 4-branched ; petals 6, yellow.

Ber'beris vulga'ris. *Barberry.*



{ Spines not branched ; petals 4 or 5.

{ Leaves with few, distinct, much-curved nerves on each side ; petals 4.

Rham'nus cathar'ticus. *Buckthorn.*



{ Lateral nerves many, or very obscure.

{ Leaves narrow, white with scurfy scales ; flowers inconspicuous.

Hippoph'aè rhamnoi'des.



{ Leaves without white scurf ; corolla of 5 petals.

ROSA'CEAE.



{ Leaves lobed, or deeply cut.

{ Leaves roundish, lobed about half-way to the centre ; flowers greenish.

Ri'bes Grossula'ria. *Gooseberry.*



{ Leaves oblong, shining, usually deeply lobed ; flowers white or pink.

Cratae'gus Oxyacan'tha. *Hawthorn.*



{ Plant not spinous or thorny.

Leaves in whorls or circlets of 3 or more at the same level on the stem.

See **Sect. B.** (page 10).



Leaves not in whorls.

Leaves minute, closely overlapping in 4 ranks ; petals and sepals 4 each, all pink.

Callu'na vulga'ris. *Ling, Heather.*



Leaves not closely 4-ranked.

Climbers, or parasites growing on other plants.

Leaves opposite, or pierced by the stem.

Leaves coarsely toothed and lobed ; flowers greenish. **Hu'mulus Lu'pulus.** *Hop.*



Leaves quite entire.

Parasite, growing on other trees ; flowers small, greenish.

Vis'cum al'bum. *Mistletoe.*



Climbers, growing from the ground ; flowers irregular, coloured.

Lonice'ra. *Honeysuckle.*



Leaves not opposite.

Stem climbing by rootlets ; flower-stalks several from one point, in an "umbel."

Hed'era he'lix. *Ivy.*



Stem without rootlets.

Plant with tendrils ; leaves rough, hairy, evidently lobed.

Bryo'nia dioi'ca. *Bryony.*



Plant without tendrils.

Leaves with angular lobes at their base.

Leaf-stalk with a membranous sheath at its base ; flowers small, greenish.

Polyg'onum.



No such sheath ; flowers large, white or pink, circular.

Convol'vulus.



Leaves heart-shaped or rounded, or with roundish lobes at base.

Flowers 6-lobed, greenish ; leaf-stalks with little stipules at base.

Ta'mus commu'nis. *Black Bryony.*



Corolla 5-lobed, purple ; leaves without stipules.

Sola'nus Dulcama'ra. *Bittersweet.*



Plant not climbing nor parasitic.

Leaves opposite.

Leaves quite entire, neither toothed nor lobed.

Leaves showing minute, translucent dots against the light ; flowers bright yellow.

Hyper'icum.

Leaves not dotted.

Leaves rarely over 1 inch, hard and polished, mostly blunt or notched at the tip.

Bux'us sempervi'rens. *Box.*

Leaves longer, not hard and polished.

Leaves rather narrow, the lateral nerves obscure ; corolla 4-lobed.

Lig'us'trum vulga're. *Privet.*

Leaves wide, the nerves distinct.

Leaves downy or hairy ; corolla irregular, coloured.

Lonice'ra Xylos'teum.

Leaves not hairy, with few, much curved nerves ; petals 4, all similar.

Cor'nus sanguin'ea. *Dogwood.*

Leaves toothed or lobed.

Leaves not a quarter as wide as they are long ; flowers inconspicuous, in catkins.

Sa'lix. *Willow.*

Leaves wider ; flowers not in catkins.

Leaves neither lobed, nor wrinkled, nor hairy ; petals 4 ; fruit lobed.

Evon'y mus europae'us. *'Spindle Tree.*

Leaves either lobed, or wrinkled and hairy.

Leaves lobed, without stipules at the base of the stalk ; flowers greenish ; fruit flat, winged.

A'cer.

Leaves not lobed, wrinkled ; or else lobed and with narrow stipules on the stalk ; flowers white ; fruit a berry.

Vibur'num.

Leaves not opposite.

Leaves fragrant, with tiny drops of resin on the back.

Leaves narrow, stiff, entire, or toothed near their tip ; fruit in little catkins.

Myri'ca Ga'le. *Bog Myrtle.*

Leaves wide, soft, lobed and toothed ; fruit a currant.

Ri'bes ni'grum. *Black Currant.*

Leaves without fragrant, resinous droplets.



Leaves soft and velvety, or with white felt, or cotton, or white silky hairs on the under surface.

Leaves lobed, or doubly toothed (i.e., with large teeth having smaller teeth upon them).

Leaves dull-green, very soft and velvety; flowers large, purple.

Lavate'ra arbo'rea. *Tree Mallow.*

Leaves whitish beneath; flowers not purple.

Leaves with sharply toothed lobes; flowers with 5 white petals.

Py'rus,

Lobes entire or bluntly toothed; flowers greenish. in catkins.

Pop'ulus al'ba. *White Poplar.*

Leaves entire, or simply toothed.

Leaves roundish-oval, blunt (or minutely pointed); petals 5; (Great Orme's Head).

Cotoneas'ter vulga'ris.

Leaves distinctly pointed, or narrow; flowers inconspicuous, in catkins.

Sa'lix. *Willow.*

Leaves not felted, or cottony, or silky.

Leaves roundish or triangular, the stalk almost as long as the leaf and flattened near where it joins it, as if pinched from side to side.

Pop'ulus. *Poplar.*

Leaf-stalk round, or flattened from front to back.

Small, low shrubs, wiry, or with green, furrowed twigs, with pinkish bell-shaped or 4-lobed flowers.

ERICA'CEAE.

Erect shrubs or trees; flowers not bell-shaped.

Leaves not more than $\frac{1}{8}$ inch wide, (no stipules).

Leaves needle-like, tufted, united in pairs by a sheath; fruit a fir-cone.

Pi'nus sylves'tris. *Scotch Fir.*

Leaves not in tufts of united pairs.

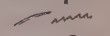
Leaves on the slender branches minute, closely overlapping each other.

Tam'arix gal'lica. *Tamarisk.*

Leaves on the branches $\frac{1}{2}$ inch long or more, mostly turned so as to lie in two opposite ranks.

Tax'us bacca'ta. *Yew.*

Leaves (mostly) $\frac{1}{4}$ inch wide or more.



Leaves roundish, with about 3 or 5 deep lobes ; fruit a currant.

Ri'bes.



Leaves not of this shape.

Leaves with the main lateral nerves running out straight (or simply forked) to the margin ; flowers greenish, or in catkins.



Leaves blunt, or with obscure or rounded points.

Leaves with several rounded, bluntish lobes ; fruit an acorn. **Quer'cus Ro'bur.** *Oak.*



Leaves surrounded by numerous sharp teeth ; fruit a little cone.

Al'nus glutino'sa. *Alder.*



Leaves sharply pointed.

Leaves entire, or with distant, very shallow teeth, finely fringed round the margin.

Fa'gus sylvat'ica. *Beech.*



Leaves with numerous small teeth.

Leaf-stalk at least half as long as the leaf.

Leaves one-sided at their base, simply toothed ; petals 5 ; fruit roundish.

Til'ia europae'a. *Lime Tree.*



Leaves not one-sided, with large and small teeth ; no petals ; fruit winged.

Bet'ula al'ba. *Birch.*



Leaf-stalk rarely a quarter as long as the leaf.

Leaves roundish, the stalk bearing gland-tipped hairs ; nut in a ragged "shuck."

Cor'yus Avella'na. *Hazel.*



Leaves oval or oblong, stalk not glandular.

Bark rough, cracked ; leaves one-sided at base ; fruit winged. **Ul'mus.** *Elm.*



Bark smooth ; leaves scarcely one-sided ; fruit in a 3-lobed bract.

Carp'i'nus Bet'ulus. *Hornbeam.*



Leaves with the main lateral nerves looping forwards, or branched and lost in the general network, before reaching the margin ; flowers white or coloured (except in *Salix*).



Leaves scarcely an inch long, very narrow, with tooth-like stipules at their base ; flowers yellow, irregular.

Genis'ta.



Leaves longer (or wider) ; flowers not yellow.

[Leaves 2-6 inches long, entire, tufted at the ends of the branches ; flowers 4-lobed, greenish or purple.]

Daph'ne.



[Leaves not so arranged ; flowers not 4-lobed.]

[Leaves entire, the nerves very regularly looped ; flowers with 5 minute petals.]

Rham'nus Fran'gula. *Black Alder.*



[Leaves entire or toothed, nerves less regular.]

[Leaves more or less oblong or oval ; flowers with 5 petals.]

ROSA'CEAE.



[Leaves variously shaped, often with stipules ; flowers inconspicuous, in catkins.]

Sa'lix. *Willow.*



Sect. B. LEAVES IN ONE OR MORE WHORLS.

[A single whorl only, and one flower, on each stem.]

[The whorl of about 4 wide entire leaves ; the flower greenish-yellow.]

Pa'ris quadrifo'lia. *Herb Paris.*

[Leaves of the whorl deeply divided ; flower white or purple.]

Anemo'ne.



[Either more than one whorl, or more than one flower.]

[Leaves (or small modified leaves, or "bracts") only in whorls at the points where the flower-stalks, or small flowering branches, divide, the other leaves on the stem and branches not being in whorls.]

See **Sect. E.** (page 17).

[Leaves all (or many of them) in whorls.]



[Leaves divided into narrow segments ; (aquatics).]

[Leaf-segments narrow, but flat ; flowers raised above the water, coloured.]

Hotto'nia palus'tris. *Water Violet.*



[Segments thread-like ; flowers inconspicuous.]

[Leaf-segments arranged in two ranks, one on each side of the mid-rib.]

Myriophyl'lum. *Water Milfoil.*



[Leaf-segments dividing in a forked manner, with no regular mid-rib.]

Ceratophyl'lum demer'sum. *Hornwort.*



[Leaves entire or toothed, not deeply cut.]

[Leaves long, entire, with several longitudinal nerves ;
flowers white, with 6 short teeth.]

Polygona'tum verticilla'tum.



[Leaves with a single longitudinal nerve (or none).]

[Leaves small, heath-like, their margins strongly rolled
back ; stem usually woody or wiry.]



[Corolla bell-shaped, shortly toothed at the mouth ;
(leaves often hairy). **Eri'ca.** *Heath.*]

[Corolla not bell-shaped ; leaves not hairy.]

[Leaf-margins meeting in a white line at the back ;
flowers with 6 small segments.]



Empet'rum ni'grum. *Crowberry.*

[Margins not meeting at the back ; corolla with 4
or 5 separate, pinkish petals.]



Franke'nia lae'vis. *Sea-Heath.*

[Leaves not heath-like.]

[Whorls 3-leaved (or 4-leaved here and there).]

[Leaves with prickly points, their lower part thick,
solid and fleshy.]



Sal'sola Ka'li. *Saltwort.*

[Leaves without prickly points.]

[Stem long, weak, swimming in water ; flowers
inconspicuous.]



Elo'dea canadensis. *Water-thyme.*

[Stem erect ; flowers coloured.]

[Leaves sprinkled with red or black dots
(against the light) ; flowers yellow.]



Lysima'chia vulga'ris. *Loosestrife.*

[Leaves not dotted ; flowers not yellow.]

[Petals 4 ; flowers with a long, stalk-like
ovary. **Epilo'bium.** *Willow-herb.*]



[Petals (usually) 6 ; no grooved, stalk-like
ovary below the flower.]



Ly'thrum. *Purple Loosestrife.*

[Whorls consisting of 4 or more leaves.]

[Stem not 4-angled.]

[Stem thick, aquatic ; leaves strap-shaped, 6 or
more in a whorl ; flowers minute.]



Hippu'ris vulga'ris. *Marestail.*

[Stem slender, terrestrial ; flowers white or
pinkish.]



CARYOPHYLLA'CEAE.

[Stem more or less sharply 4-angled.]

Calyx deeply 4- to 6-toothed ; flowers surrounded by long leafy bracts.

Sherar'dia arven'sis. *Field Madder.*



Calyx indistinct, not toothed.

[Corolla 5-cleft (or 4-cleft in a few flowers) ; stem and leaves very rough with prickles.

Ru'bia peregri'na. *Madder.*



[Corolla 4-cleft.

[Corolla funnel-shaped, the lower part more or less elongated and tubular ; plant small.

Asper'ula.



[Corolla short, without any distinct tube ; plant varying in size.

Ga'lium.



Sect. C. FLOATING OR SUBMERGED AQUATICS.

Leaves cut into leaflets, or very narrow segments.

[Leaves with separate oval or oblong leaflets.

[Leaves with 3 broad, oval leaflets ; corolla 5-lobed, hairy within.

Menyan'thes trifolia'ta. *Buckbean.*



[Leaflets (usually) more than 3 ; corolla of 4 or 5 separate petals.

[Petals 5 ; flower-stalks 3 or more together, in an "umbel."

UMBELLIF'ERAE.



[Petals 4 ; flowers not in an umbel.

CRUCIF'ERAE.



[Leaves with very narrow or thread-like segments.

[Leaves (or branches) bearing minute bladders ; flowers irregular, coloured.

Utricu'laria. *Bladderwort.*



[Leaves without bladders ; flowers regular.

[Leaf segments narrow but flat ; corolla in one piece, 5-lobed.

Hotto'nia palus'tris. *Water Violet.*



[Leaf-segments thread-like ; corolla of 5 separate petals.

Ranun'culus aquat'ilis.



Leaves not cut into leaflets or narrow segments.

[Plant consisting of small, detached, floating fronds, usually with rootlets beneath.

Lem'na. *Duckweed.*



[Plant not of this nature.

Upper leaves stalked, floating flat upon the surface of the water.

Leaves oblong, much longer than wide.

Leaves with a single mid-rib running up the centre ; flowers pink, 5-lobed.

Polyg'onum.



Leaves with 3 or more longitudinal nerves.

Leaves scarcely 1 inch long ; flowers with 3 white petals.

Alis'ma na'tans.



Leaves usually longer ; flowers greenish, with 4 segments.

Potamoge'ton. Pondweed.



Leaves more or less roundish-oval or triangular.

Leaves with the stalk attached in the centre of the leaf.

Hydrocot'yle vulgaris. Marsh Penny-wort.



Leaf-stalk not attached in the centre.

Leaves kidney-shaped, the nerves all curving towards the tip ; petals 3.

Hydroch'aris Mor'sus-ra'nae. Frogbit.



Nerves not so arranged.

Corolla in one piece, 5-lobed ; leaves with brownish dots beneath.

Limnan'themum nymphaeoi'des.



Petals separate ; leaves not dotted.

Leaves small, angular or toothed or lobed ; petals 5, white.

Ranun'culus.



Leaves large, entire ; petals numerous.

Sepals 4, white within, scarcely longer than the white petals, which are arranged in several ranks.

Nymphae'a al'ba. Water-lily.



Sepals 5 or 6, yellow within ; much longer than the small, yellow petals which lie in a ring within them.

Nu'phar lu'teum. Yellow Water-Lily.



Leaves not floating (or, if so, without stalks).

Leaves thin, translucent, with 3 or more parallel nerves running length-ways ; flowers greenish, with 4 segments.

Potamoge'ton. Pondweed.

Leaves with only one longitudinal nerve, or thick and opaque, and apparently without any nerve.



Leaves (mostly) opposite.

Leaves thread-like, fine-pointed.

Leaves finely toothed along the margin; (rare plants, of Norfolk and Lancs.).

Na'ias.

Leaves not toothed; fruits projecting in the angles of the leaves.

Zanichel'lia palus'tris.

Leaves not thread-like.

Stem often long and slender; flowers minute, without calyx or corolla.

Callit'riche aquat'ica.

Stem short; flowers with (at least) a calyx.

Calyx with 6 or 12 short teeth; petals minute, often absent.

Pep'lis Por'tula. *Water Purslane.*

Calyx deeply divided.

Calyx with 2 segments only; corolla 5-lobed; plant often in dense tufts.

Mon'tia fonta'na. *Blinks.*

Calyx and corolla each with 3 or 4 segments; plant, creeping.

Elat'ine. *Water Pepper.*

Leaves not opposite.

Leaves all springing from the root.

Leaves strongly toothed at margin; corolla of 3 white petals.

Stratio'tes aloi'des. *Water-soldier.*

Leaves not toothed.

Leaves stalked or narrowed at base; corolla 5-lobed.

Limosel'la aquat'ica. *Mudwort.*

Leaves quite without stalks.

Leaves (formed of 2 tubes) flattened and blunt at apex; flowers irregular.

Lobe'lia Dortman'na.

Leaves cylindrical and tapering at apex; corolla regular.

Corolla membranous, in one piece, 3- or 4-cleft.

Littorel'la lacus'tris. *Shore-weed.*

Flowers with 4 separate and distinct petals, not membranous.

Subula'ria aquat'ica. *Awlwort.*

Stem bearing leaves.



Leaves stalked, or narrowed at the base.

Leaves blunt ; calyx present ; corolla with little teeth within, between its lobes.

Sa'molus Valeran'di. *Brookweed.*

Leaves pointed ; flowers without any green calyx.

Polyg'onum.



Leaves without stalks, narrow, or rush-like.

Leaves thick and opaque, or rush-like and hollow.

Leaves thick, but flat ; flowers rudimentary, in rounded heads.

Sparga'nium. *Bur-reed.*

Leaves cylindrical, hollow, with cross-partitions inside ; flowers with 6 segments.

Jun'cus articula'tus. *Jointed Rush.*



Leaves thin, showing a mid-rib, or thread-like.

Flowers in a spike ; upper leaves thread-like, composed of a double tube.

Potamoге'ton. *Pondweed.*



Flowers not in a spike ; leaves thin, flat.

Leaves almost thread-like ; flowers on separate stalks.

Rup'pia marit'ima.

Leaves ribbon-like ; flowers enclosed in a sheath at their base.

Zoste'ra.



Sect. D. FLOWER-PARTS IN THREES OR SIXES.

Leaves opposite.

Leaves toothed ; flowers with only 3 greenish segments.

Mercuria'lis. *Mercury.*

Leaves entire.



Flowers with both calyx and corolla.

Petals very narrow and fine-pointed ; stamens 3 only.

Tillae'a musco'sa.

Petals bluntish, rose-coloured ; flowers with 6 stamens.

Elat'ine hexan'dra. *Waterwort.*



Flowers without corolla ; calyx with 6 teeth, and 6 smaller ones between them.

Pep'lis Por'tula. *Water Purslane.*



Leaves not opposite (or none).

Leaves set edge-ways to the stem, and with one edge split to embrace it (see leaf of *Iris* below).

Flowers under an inch across, with 6 equal and similar segments. **LILIA'CEAE.**



Flowers large, some segments larger than others.

Flowers erect, the 3 outer segments much larger than the 3 inner.

I'ris.



Flowers inclined, the 3 upper segments larger than the 3 lower. **Gladi'olus commu'nis.**



Leaves not set edge-ways nor split.

Flowers with 3 outer segments and 3 inner, one of the latter (the "lip") markedly different from all the rest; stamens united with the style into a "column." **ORCHIDA'CEAE.**



Flowers symmetrical and regular; stamens free.

Flowers green (or turning red), or scaly.

Leaves rush-like and cylindrical, or none.

Flowers in clusters or heads, the ovary in one piece, not divided. **Jun'cus. Rush.**



Flowers on short stalks down the stem.

Flowers rather few, with a little leaf, or "bract," under each.

Scheuchze'ria palus'tris.

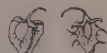
Flowers numerous, without any bracts under their stalks.

Triglo'chin. Arrow-grass.



Leaves not rush-like nor thickened.

Lower leaves stalked; 3 inner segments of the flower enlarged in fruit. **Ru'mex. Dock.**



Leaves grass-like, not stalked; flower of 6 similar segments.

Lu'zula. Woodrush.



Flowers white, yellow, blue, purple, etc.

Flowers with 3 outer white segments, and 3 inner ones with green veins. **Galan'thus niva'lis. Snowdrop.**



Flowers not of this description.

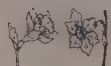
Flowers bell-shaped, with 3 segments or teeth only, and no calyx.

As'arum europae'um. Asarabacca.

Flower-segments 6 (or 3 sepals and 3 petals).



- Leaves toothed.
- [Flowers with 6 bright-yellow sepals ; the lower leaves stalked. **Cal'tha palus'tris.** *Marsh Marigold.*
 - [Flowers with 3 green sepals and 3 white petals ; leaves not stalked. **Stratio'tes aloi'des.** *Water-soldier.*
- Leaves not toothed (or none at time of flowering).
- [Flowers with 6 similar segments, and a "crown" projecting within (see figures). **Narcis'sus.**
 - [Flowers without a "crown."
 - [Leaves arrow-head-shaped, stalked ; (flowers with 3 sepals and 3 petals). **Sagitta'ria sagittifo'lia.** *Arrowhead.*
 - [Leaves not so shaped.
 - [Stamens 9 ; leaves solid, more or less triangular in section. **Bu'tomus umbella'tus.** *Flowering Rush.*
 - [Stamens 3 or 6.
 - [Flowers with 3 green sepals and 3 petals.
 - [Ovaries 6 or 8, spreading like a star in fruit ; leaves not tapering at base. **Damaso'nium stella'tum.** *Star-fruit.*
 - [Ovaries numerous, not spreading in fruit ; leaves tapering at base. **Alis'ma.**
 - [Flowers with 6 nearly similar segments.
 - [Stamens 3 only.
 - [Flowers with a long tubular portion below the segments, which are one or two inches long. **Cro'cus.**
 - [Flowers with a very short tube, the segments not half-an-inch long. **Rom'ulea Colum'nae.**
 - [Stamens 6.
 - [Ovary forming a green swelling below and outside the flower. **Leuco'jum aesti'vum.** *Snowflake.*
 - [Ovary prominent within the flower, not visible outside.
- LILIA'CEAE.**



Sect. E. FLOWERS IN HEADS OR UMBELS.

[Corolla with a wide upper petal ("standard,") two lateral "wings," and a folded "keel" within them. **PAPILIONA'CEAE.**]



[Flowers not on this pattern.

[Flower-head (or umbel) surrounded by 4 white, almost petal-like bracts. **Cor'nus sue'cica.**]



[Flowers not so arranged.

[Ovary on a curved stalk, projecting between 4 rounded or crescent-shaped yellowish "glands." **Euphor'bia. Spurge.**]



[Flowers without a stalked ovary or "glands."

[Flowers on distinct stalks, in an umbel.

[Corolla joined in one piece.

[Stamens united in a central projection. **Sola'num ni'grum.**]



[Stamens not united.

[Corolla white, with 5 to 8 segments (*right-hand fig.*). **Trienta'lis europae'a.**]

[Corolla yellow or purple (*l.h.*) **Pri'mula.**]



[Corolla with 4 or 5 separate petals.

[Petals 4, yellow; sepals 2 only, soon falling off. **Chelido'nium ma'jus. Celandine.**]



[Petals 5.

[Sepals 5, separate and distinct.

[Leaves not divided, various in shape. **CARYOPHYLLA'CEAE.**]



[Leaves divided, or made up of separate leaflets. **Ero'dium. Stork's-bill.**]



[Sepals absent, or consisting of mere short teeth. **UMBELLIF'ERAE.**]



[Flowers in compact heads, (almost) without separate stalks to each flower.

[Flower-heads with a tubular sheath on the stalk below them. **Arme'ria vulga'ris. Thrift.**]



[No such sheath below the heads.

Stem with at least one pair of opposite leaves.

[Flower-head small, cubical, greenish, without any bracts at its base.

Adox'a Moschatelli'na. *Moschatel.*

Heads with several bracts at their base.

[Heads purplish, many flowered.

[Heads with stiff spiny or bristly points projecting among the flowers.

Dip'sacus. *Teazle.*

[Heads without any projecting bristles among the flowers.

Scabio'sa. *Scabious.*

[Flowers yellow, or if purple, only 5 or 6 in each head.

COMPOS'ITAE.

Leaves not opposite.

[Stamens or ovaries crowded on solid heads, without any calyx or corolla. **Sparga'nium.** *Bur-reed.*

[Flowers with calyx or corolla, or both.

[Flowers regular, with 5 quite separate and free petals.

UMBELLIF'ERAE.

[Flowers with the segments united, at least at their base.

[Flowers in stalked, roundish or oblong heads which have no bracts close below them.

ROSA'CEAE.

Several bracts below or around the heads.

[Corolla regular, with 5 narrow segments united only at the very base.

[Leaves not stalked; flower-heads almost hemispherical.

Jasi'one monta'na. *Sheep's-bit.*

[Lower leaves on long stalks; heads rounded or elongated.

Phyteu'ma.

[Corolla divided half-way down or less, or very irregular, or minute and thread-like.

COMPOS'ITAE.



Sect. F. FLOWERS IRREGULAR OR SPURRED.

Flowers with a spur or a pouch-like projection, at the side of the stalk, near their base.

[Calyx (apparently) of 2 sepals only.

[Flowers with a short, rounded pouch at their base ; leaves much divided.

FUMARIA'CEAE.

[Flowers with a narrow or pointed spur.

[Leaves toothed, but not deeply divided ; corolla of separate segments.

Impa'tiens. *Balsam.*

[Leaves cut into thread-like segments ; corolla in one piece.

Utricu'la. *Bladderwort.*

[Calyx with more than 2 segments, or absent.

[Corolla evidently in one piece.

[Corolla with the mouth closed by a "palate."

[Corolla with a slender or tapering spur at the base.

Lina'ria. *Toadflax.*

[Corolla with a rounded, pouch-like projection at the base.

Antirrh'i'num. *Snapdragon.*

[Corolla without a "palate" closing the mouth.

[Leaves all at the root, thick, greasy to the touch ; calyx evident.

Pinguic'ula. *Butterwort.*

[Stem with opposite leaves ; calyx very indistinct.

VALERIA'NEAE.

[Petals separate to their base.

[Flowers with 5 green sepals, and 5 white or coloured petals.

Vi'ola. *Violet. Pansy.*

[Flowers not so arranged.

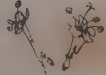
[Leaves deeply divided ; spur long and very slender.

Delphin'ium Aja'cis. *Larkspur.*

[Leaves entire (or replaced by mere scales) ; spur various.

ORCHIDA'CEAE.

[Flowers without a spur or pouch at their base.



Flowers with a wide upper petal ("standard,") 2 lateral "wings," and a folded "keel" within or below them (as in the Pea-flower, Vetch, Clover, etc.)



PAPILIONA'CEAE.

Flowers not on this pattern.

Petals (or petal-like sepals) free and separate to their base.

Flowers with 3 very small outer sepals, and 2 large white or coloured inner ones.



Polyg'ala vulga'ris. *Milkwort.*

Parts of the flower not so arranged.

Flowers dark-blue, the uppermost (blue) sepal helmet-shaped.



Aconi'tum Napel'lus. *Monkshood.*

No blue, helmet-shaped sepal.

Flowers with 3 outer segments (or sepals), often whitish or coloured, and 3 inner, of which one, the "lip," differs markedly from the others.



ORCHIDA'CEAE.

Flowers not of this pattern.

Petals (or some of them) cut into narrow segments.



Rese'da. *Mignonette, etc.*

Petals not deeply cut.

Petals and sepals 4 each; flowers white, rather numerous.



CRUCIF'ERAE.

Sepals 5; petals 5, yellow, but some of them usually small or absent.



Ranun'culus auri'comus.

Corolla more or less united into one piece.

Plant without green leaves (only scales).

Calyx with 4 broad, short teeth, the lower part undivided.



Lathrae'a squama'ria. *Toothwort.*

Calyx deeply cut into 2 or more narrow-pointed sepals or teeth.



Oroban'che. *Broomrape.*

Plant with green leaves.

Lobes of calyx much cut at their margin, which is often rolled back.



Pedicular'is. *Lousewort.*

Calyx-lobes entire (or nearly).

- [Calyx with 4 divisions (rarely a minute 5th segment in *Euphrasia*).
 [Stamens 2 only ; corolla 4-lobed, widely open, blue or pinkish. **Veron'ica.** *Speedwell.*
 [Stamens 4 ; corolla more or less 2-lipped.
 [Upper lip of corolla with 2 spreading lobes, with a distinct cleft between. **Euphra'sia officina'lis.** *Eyebright.*
 [Upper lip entire, or just notched at the tip.
 [Upper lip short, with its margin rolled back, lower lip with a raised "palate."
Melampy'rum. *Cowwheat.*
 [Margin of upper lip not rolled back.
 [Calyx inflated ; upper lip of corolla notched, with a projection on each side. **Rhina'nthus Cris'ta-gal'li.** *Rattle.*
 [Calyx not inflated ; upper lip of corolla not (or scarcely) notched. **Bart'sia.**
 Calyx, 2-, 3-, or 5-toothed or lobed.
 [Leaves opposite.
 [Leaves with several longitudinal nerves ; flowers large, yellow, on long stalks. **Mim'ulus lu'teus.**
 [Leaves with a single mid-rib.
 [Corolla almost globular, with 4 short, erect lobes, and one bent. **Scrophu'la'ria.** *Figwort.*
 [Flowers not so formed.
 [Corolla only slightly irregular.
 [Flowers pale lilac, not clustered ; stamens short, hidden in the corolla-tube. **Verbe'na officina'lis.** *Vervain.*
 [Flowers in little clusters round the stem ; stamens long, not hidden. **LABIA'TAE.**
 [Corolla very irregular, the segments usually arranged in an upper and a lower lip. **LABIA'TAE.**
 [Leaves not opposite.
 [Flowers yellow ; stamens (or some of them) thickly bearded with hairs. **Verbas'cum.** *Mullein.*
 [Flowers not yellow ; stamens not bearded.



[Corolla over an inch long, white or reddish, 4-lobed at the mouth.]

Digitalis purpurea. *Foxglove.*



[Corolla 5-lobed, blue or blue-purple.]

[Corolla with the 2 upper lobes much narrower than the others.]

Lobelia.



[Upper lobes of the corolla short and wide; plant coarsely hairy.]

Echium.



Sect. G. FLOWERS GREEN OR SCALY.

[Ovary stalked and projecting on one side, between 4 rounded or-crescent-shaped "glands" (no real sepals or petals).]

Euphorbia. *Spurge.*



[Flowers without such "glands"; ovary not stalked.]

[Leaves opposite, or prickly pointed, or none.]

[Leaves absent (only green, fleshy, opposite branches), or with prickly points, or more or less covered with white, powdered meal or silvery scales.]

CHENOPODIA'CEAE.



[Leaves present, not prickly or mealy.]

[Leaves bearing bulbous-based, stinging hairs, and usually sharply toothed.]

Urtica. *Nettle.*



[Leaves without stinging hairs.]

[Flowers with 5 segments.]

[Leaves narrow, many times as long as they are wide; flowers funnel-shaped.]

Scleranthus. *Knawel.*



[Leaves minute, oblong or roundish, not 3 times as long as wide.]

Herniaria glabra. *Rupture-wort.*



[Flowers with 4 segments.]

[Flowers with 4 short, broad lobes; leaves more or less oval.]

Ludwigia palustris.



[Flowers with 4 separate sepals; leaves very narrow.]

CARYOPHYLLA'CEAE.



[Leaves not opposite, nor prickly.]

Stamens and ovaries crowded, without calyx or corolla,
on solid spikes or round heads.

Stamens and ovaries collected on separate, rounded
heads.

Sparga'nium. *Bur-reed.*

Stamens and ovaries on a solid spike.

Spike partly hidden by a large leaf, or "spathe";
leaves stalked, triangular.

A'rum macula'tum. *Cuckoo-pint.*

Spike not enclosed; leaves not stalked.

Spike erect, at the top of a long stalk; leaves
scentless.

Ty'pha. *Reedmace.*

Spike inclined, from the side of the leaf-like stem;
leaves aromatic when crushed.

Ac'orus Cal'amus. *Sweet Flag.*

Flowers with a calyx, or corolla, or both.

Leaves all from the root of the plant.

Flowers crowded on a stalked oblong head or
spike.

Planta'go. *Plantain.*

Flowers on separate stalks; shore plant, with very
narrow leaves.

Littorel'la lacus'tris. *Shoreweed.*

Stem bearing one or more leaves.

Leaves divided nearly or quite to the stalk.

Leaflets, or segments, in a row down each side
of the leaf-stalk or mid-rib.

CRUCIF'ERAE.

Segments radiating from the base of the leaf.

Flowers with 5 large, roundish, concave sepals;
stamens numerous.

Helleb'orus.

Flowers small, with 4 (rarely 5) segments,
usually with four smaller ones behind
them; stamens 4.

Alchemil'la.

Leaves not deeply divided.

Leaves roundish, with finely toothed lobes;
flowers with 4 larger and 4 smaller segments.

Alchemil'la.

Neither leaves nor flowers of this description.

Leaves stalked, kidney-shaped, entire; sepals
4, 2 enlarging in fruit.

Oxyr'ia renifor'mis. *Mountain Sorrel.*

Leaves not kidney-shaped.



[Flowers with the greenish-white segments toothed near their base ; leaves small and narrow.]

The'sium linophyl'lum.



[Segments of the flower not toothed.]

[Leaves with white, membranous stipules at the base of the stalk, which often surround the stem like a tube.]

Polyg'onum.



[Leaves without any stipules.]

[Leaves hairy, often with 3 nerves near the base of the leaf.]

Parieta'ria officina'lis. Pellitory.



[Leaves not hairy.]

CHENOPODIA'CEAE.

Sect. H. CALYX ABSENT, OR OF 2 SEGMENTS ONLY, OR PETAL-LIKE.

[Thread-like trailing or twining plant, with no proper leaves.]

Cus'cuta. Dodder.



[Plant with leaves.]

[Corolla (or petal-like calyx) of 4 segments.]

[Calyx and corolla each of 4 pink (or white) segments ; leaves minute, 4-ranked.]

Callu'na vulga'ris. Ling.



[Neither leaves nor flowers of this nature.]

[Flower-segments joined in one piece ; leaves roundish and obtuse.]

Chrysosple'nium. Golden Saxifrage.



[Segments separate to their base.]

[Stem with 2 leaves only ; stamens 4 only.]

Maian'themum Convalla'ria.



[Stem with several leaves ; stamens many.]

[Flowers about $\frac{1}{4}$ inch, across, the stamens usually protruding outside.]

[Leaves divided into oval leaflets, bordered by numerous sharp teeth.]

Actae'a spica'ta. Baneberry.



[Leaflets more or less rounded or wedge-shaped, with few teeth or lobes.]

Thalic'trum. Rue.



[Flowers an inch or more across ; stamens not protruding.]

PAPAVERA'CEAE.



[Corolla not of 4 segments.]



Calyx of 2 green sepals or segments.

Petals and stamens 2 each; ovary forming a swelling below the sepals.

Circae'a. *Enchanter's Nightshade.*

Corolla of 5 segments; stamens 3 or 5.

Leaves narrow, $\frac{1}{4}$ - $\frac{1}{2}$ inch long; stamens 3; plant of wet places.

Mon'tia fonta'na. *Blinks.*

Upper leaves roundish, pierced by the stem; stamens 5.

Clayto'nia perfolia'ta.

No distinct green calyx (or a mere ring).

Leaves, at least the upper ones, opposite.

Stamens 5; flowers close down in the angles of the leaves.

Glau'x marit'ima. *Sea Milkwort.*

Stamens 3; flowers in clusters at the end of the stem and branches.

VALERIA'NEAE.

Leaves not opposite.

Leaves deeply cut, or of separate leaflets.

Flowers with 5 long, tapering, hooked spurs at their base.

Aquile'gia vulga'ris. *Columbine.*

Flowers without spurs.

Flowers with 10-15 yellow sepals overlapping each other.

Trol'lius europae'us. *Globeflower.*

Flowers with 5 greenish or purplish sepals, arranged round the centre. **Helleb'orus.**

Leaves entire or toothed, not deeply cut.

Leaves roundish, toothed; flowers large, bright yellow.

Cal'tha palus'tris. *Marsh Marigold.*

Leaves entire (or nearly); flowers not yellow.

Sepals whitish, with long, fine, often twisted points.

Illece'brum verticilla'tum.

Segments of the flower without fine, slender points. (See top of page 24, *Thesium*, *Polygonum*, etc.).



Sect. I. COROLLA IN ONE PIECE.

Undershrubs, stems woody or wiry ; flowers pink (or white), almost globular and 4- or 5-toothed, or deeply 4-lobed. **ERICA'CEAE.**

Herbs, without woody or wiry stems.

Corolla more or less deeply 4-lobed,

[Calyx with 5 segments or teeth ; (corolla more or less irregular). **LABIA'TAE.**]

[Calyx with 4 segments or teeth.

[Stamens 2 only ; one segment of the corolla slightly smaller than the rest.

Veron'ica. *Speedwell.*

[Stamens more than 2 ; corolla quite regular.

[Flowers minute, almost without stalks, in the angles of the leaves.

Centun'culus min'imus. *Chaffweed.*

[Flowers at the end of the stem and branches.

[Flowers yellow, minute ; lobes of the calyx equal.

Cicen'dia filifor'mis.

[Flowers purple ; calyx with 2 larger and 2 smaller lobes. **Gentia'na.** *Gentian.*]

Corolla with 5 or more segments or teeth, or entire.

[Leaves round, with the leaf-stalk attached in the centre.

Cotyle'don umbili'cus. *Pennywort.*

[Leaf-stalk not attached in the centre.

[Corolla circular, with its margin scarcely lobed.

Convol'vulus.

[Corolla distinctly lobed or toothed.

[Stamens united, forming a conspicuous projection within the wide-open flower.

[Flowers bright blue ; plant rough with coarse hairs ; stamens dark.

Bora'go officina'lis. *Borage.*

[Flowers white or purple, the stamens in the centre yellow.

Sola'num.

[Stamens not forming such a projection.



Leaves opposite, or joined across the stem.

[Stamens 3 ; calyx-border small, entire or indistinctly toothed.

VALERIA'NEAE.

Stamens more than 3 ; calyx-segments well-marked.

[Leaves toothed, or cut, or of separate leaflets.

[Leaves divided into distinct leaflets ; calyx very shortly toothed.

Sambu'eus Eb'ulus. *Danewort.*

[Leaves not divided into distinct leaflets.

[Flowers pale violet, small, without stalks, up the sides of the stem. (*V.o.*).

Verbe'na officina'lis. *Vervein.*

[Flowers in pairs, on slender stalks, at the end of the stem. (*L.b.*). **Linnae'a borea'lis.**

Leaves quite entire.

[Flowers yellow.

[Leaves joined across the stem ; corolla usually of 8 segments.

Chlo'ra perfolia'ta. *Yellowwort.*

[Leaves not joined across the stem ; corolla of 5 or 6 segments.

Lysima'chia.

[Flowers not yellow.

[Corolla an inch or more across, with square-ended, oblique lobes.

Vinca. *Periwinkle.*

[Corolla-lobes rounded or pointed.

[Corolla divided nearly to its centre ; style entire.

Anagal'lis. *Pimpernel.*

[Corolla not divided half-way.

[Flowers pink ; stamens with the "anthers" at their tip twisted when ripe.

Erythrae'a Centau'rium. *Centaury.*

[Flowers blue, purple, or white ; the anthers straight.

Gentia'na. *Gentian.*

Leaves not opposite (unless, it may be, the one or two terminal pairs).

[Stamens (or some of them) bearded with hairs ; flowers pale-yellow.

Verbas'cum. *Mullein.*

[Stamens not conspicuously hairy.



Leaves divided into separate leaflets.

Leaves with only 3 leaflets ; corolla hairy on the inner surface.

Menyan'thes trifolia'ta. *Buckbean.*

Leaves with several pairs of leaflets ; corolla not hairy.

Polemo'nium caeru'leum. *Jacob's Ladder.*

Leaves not divided into separate leaflets.

Leaves all from the root.

Corolla-segments spreading ; leaves shortly or scarcely stalked.

Pri'mula.

Segments of the corolla bent back ; leaves on long stalks.

Cyc'lamen europae'um. *Sowbread.*

Stem bearing leaves.

Stamens 4, not hidden ; plant creeping.

Leaves narrow ; plant creeping in mud, not hairy.

Limosel'la aquat'ica. *Mudwort.*

Leaves roundish, with 7-9 shallow lobes ; plant hairy.

Sibthor'pia europae'a.

Stamens 5, sometimes hidden within the corolla.

Style 3- to 5-branched (when full-blown) ; stamens not attached to the corolla.

Campan'ula.

Style entire or 2-branched ; stamens attached.

Upper leaves with a few large teeth.

Corolla with long, fine-pointed lobes, white (or purple).

Datu'ra Stramo'nium. *Thorn-apple.*

Corolla-lobes bluntish or notched, yellow with purple veins.

Hyoscy'amus ni'ger. *Henbane.*

Leaves entire, or with obscure shallow teeth.

Corolla white, with 5 little teeth pointing inwards between the lobes.

Sa'molus Valeran'di. *Brookweed.*

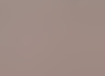
Corolla without teeth between the lobes.

Leaves mostly in pairs from one point, scarcely hairy ; corolla large.

At'ropa Belladon'na. *Nightshade.*

Leaves not in pairs, often

roughly hairy. **BORAGIN'EAE.**



Sect. J. FLOWERS WITH SEPARATE PETALS.

Leaves thick and fleshy, or replaced by fleshy yellowish or brownish scales.

[Plant without any green leaves ; flowers with 4 or 5 fringed petals.

Monot'ropa Hypopi'thys. *Bird's-nest.*

Plant with green leaves.

[Flowers with the sepals, petals and ovaries 4 to 6 each.

Se'dum. *Stonecrop.*

[Flowers with 8 or more sepals and petals ; petals hairy at their margin.

Sempervi'vum tecto'rum. *Houseleek.*

Leaves not thick and fleshy (or scarcely so).

Petals 4.

[Flowers with a long, grooved, stalk-like ovary below them.

Epilo'bium. *Willow-herb.*

Flowers without a grooved, stalk-like ovary.

Leaves opposite.

[Calyx with 4 segments, each of which is 3- or 4-toothed or lobed.

Radi'ola Millegra'na. *Allseed.*

Calyx segments not lobed.

[Flowers white, on distinct stalks.

CARYOPHYLLA'CEAE.

[Flowers pink, without stalks, in the angles of the leaves.

Elat'ine Hydrop'iper. *Waterwort.*

Leaves not opposite.

[Calyx with 4 small, additional segments outside the 4 principal ones.

Potentil'la Tormentil'la. *Tormentil.*

Calyx without additional outer segments.

[Calyx with a long, slender tube below the 4 segments.

Oenothe'ra bien'nis. *Evening Primrose.*

[Calyx without any tube, of 4 separate sepals.

CRUCIF'ERAE.

Petals 5 or more.



Petals 8 or more.

[Sepals 3 only; leaves heart-shaped or angular; flowers bright yellow.]

Ranun'culus Fica'ria. *Lesser Celandine.*

[Calyx with 8 or more segments; leaves oval, toothed; flowers white.]

Dry'as octopet'ala. *Mountain Avens.*

Petals 6 or fewer.

[Leaves opposite and entire, or in little opposite tufts.]



[Calyx with 3 segments, with or without 1 or 2 minute additional ones behind them.]

Helian'themum. *Rockrose.*

[Calyx with more than 3 segments or teeth.]



[Calyx with 8-12 teeth; petals (usually) 6.]

[Petals conspicuous, longer than calyx; plant tall. **Ly'thrum.** *Purple Loosestrife.*]



[Petals minute; plant small, creeping in mud or shallow water.]

Pep'lis Por'tula. *Water Purslane.*



[Calyx with 5 sepals or teeth.]

[Flowers yellow; stamens numerous, more or less collected into bundles.]

Hyper'icum. *St. John's-wort.*



[Flowers not yellow; stamens 3-10.]

[Leaves minute, heath-like, in little opposite clusters, margins rolled back.]

Franke'nia lae'vis. *Sea Heath.*



[Leaves not of this description.]

[Sepals whitish, thick, with a long, fine point. **Illece'brum verticilla'tum.**]



[Sepals without a thread-like point.]

[Leaves crowded in 4 ranks, fringed with hairs, not $\frac{1}{4}$ inch long]

Saxif'raga oppositifo'lia.



[Leaves not crowded in 4 ranks.]

[Flowers small, white, with 5 knobbed styles; petals narrow, entire.]

Li'num cathar'ticum.



[Styles not knobbed; petals often notched or wide at the tip.]

CARYOPHYLLA'CEAE.



[Leaves not opposite and entire.]

- Calyx of 5 segments, with additional segments or bracts below them, or the calyx covered with little hooked bristles.
- Stamens united together, so as to form a conspicuous central column projecting within the flower.
- Bracts outside the calyx 5 or more, united at their base. **Althae'a.** *Marsh Mallow.*
- Outer bracts of calyx 3 (free or united).
- Outer bracts wide, joined about half-way into a cup-shaped piece. **Lavate'ra arbo'rea.** *Tree Mallow.*
- Outer bracts narrow, not joined, free for their whole length. **Mal'va.** *Mallow.*
- Stamens not united together, nor forming a central column. **ROSA'CEAE.**
- Calyx segments 5 or 6, without additional ones below or outside them.
- Styles 1 or 2, prominent and distinct.
- Flowers with a single central style; petals roundish. **Py'rola.** *Wintergreen.*
- Flowers with 2 styles, erect or diverging from each other. **Saxif'raga.** *Saxifrage.*
- Styles more than 2, or hidden, or indistinct.
- Leaves with 3 or more entire leaflets.
- Leaflets 3 only; flowers pale or yellow; plant small. **Ox'alis.** *Woodsorrel, etc.*
- Leaflets more than 3; flowers crimson, 2 or 3 inches across. **Paeo'nia officina'lis.** *Paeony.*
- Leaves not made up of entire leaflets.
- Petals deeply cut into narrow segments, white or pale. **Rese'da al'ba.** *White Mignonette.*
- Petals not so cut.
- Flowers bright yellow; ovaries many, crowded in a central head. **Ranun'culus.**
- Flowers not bright yellow.



Leaves entire, neither toothed nor cut.

Leaves all from the root.

Leaves fringed with long, bulbous-tipped, sticky hairs. **Dros'era.** *Sundew.*

Leaves not fringed with bulb-tipped hairs.

Calyx shortly toothed ; stem branched and many-flowered.

Stat'ice. *Sea Lavender.*

Calyx of 5 distinct sepals ; flower-stalks each with one flower only.

Myosu'rus min'imus. *Mousetail.*

Flowering stem bearing at least one leaf.

Petals with a fringed scale at their base ; stem usually with one leaf only.

Parnas'sia palus'tris. *Grass of Parnassus.*

Petals without such a scale.

Flowers small, white ; leaves blunt, strap-shaped ; styles 3.

Corrigi'ola littora'lis. *Strapwort.*

Flowers (usually) blue, rather large ; leaves pointed ; styles 5.

Li'num. *Flax.*

Leaves toothed, or lobed, or of separate leaflets.

Mud or water plant ; leaves with few, shallow, entire lobes ; petals small, white.

Ranun'culus hederaceus.

Land plants, with toothed or divided leaves.

Stamens numerous, promiscuously arranged.

Flowers deep-red ; leaves much cut and divided into narrow segments.

Ado'nis autumn'a'lis. *Pheasant's-eye.*

Flowers white or pink ; leaves wide and toothed or with toothed leaflets. **ROSA'CEAE.**

Stamens 5 or 10, opposite the sepals and petals.

Leaves as wide as they are long, with the main nerves and segments radiating from the point where the leaf-stalk enters.

Gera'nium. *Crane's-bill.*

Leaves (usually longer than they are wide) with the nerves and segments arranged down each side of the mid-rib.

Ero'dium. *Stork's-bill.*



NATURAL ORDERS.

(WHICH HAVE NOT BEEN ALREADY DISTRIBUTED INTO THEIR
GENERA IN THE GENERAL KEY).

BORAGIN'EAE. (28).

- [Corolla irregular, or with its lower part bent.
[Corolla wide-open at the throat, the upper segments
longer than the lower. **E'chium.** *Viper's Bugloss.*
Corolla small, narrowed at the throat, with the tubular
part bent. **Lycop'sis arven'sis.** *Bugloss.*
Corolla regular, the tube (if any) straight.
[Stamens joined in a conspicuous, dark, conical pro-
jection within the blue flowers. **Bora'go officina'lis.** *Borage.*
Stamens not forming such a projection.
[Corolla long, narrowly bell-shaped, shortly 5-toothed
at the mouth. **Sym'phytum.** *Comfrey.*
Corolla with 5 more or less spreading lobes.
[Corolla with the throat partly closed by little
projecting scales or folds at the base of the
lobes.
[Stem rough with prickles, which are curved
backwards. **Asperu'go procum'bens.**
Stem without recurved prickles.
[Flowers almost without stalks, with a leaf or
bract under each. **Anchu'sa.** *Alkanet.*
Flowers stalked, without bracts.
[Flowers dull-red or purplish; fruits bur-
like, conspicuous. **Cynoglos'sum.** *Hound's-tongue.*
[Flowers blue or pinkish; fruits smooth,
nearly hidden in the calyx. **Myoso'tis.** *Forget-me-not.*
Throat of the corolla not closed.



[Divisions of the calyx not reaching the middle ; leaves often blotched with white.

Pulmona'ria officina'lis. *Lungwort.*



[Calyx divided nearly to the base.

[Calyx-segments wide ; leaves thick, covered with hard dots when dry, without hairs.

Merten'sia marit'ima.

[Calyx-segments narrow ; leaves more or less hairy ; fruits hard.

Lithosper'mum. *Gromwell.*



CARYOPHYLLA'CEAE. (10, 29, 30).

[Calyx in one piece, 4- or 5-toothed or lobed.

[Calyx with 2 or more scales or bracts outside it at its base.

Dian'thus. *Pink.*



[No scales outside the calyx.

[Calyx swollen and inflated, thin, without hairs, with a network of veins all over it.

Sile'ne Cucu'balus. *Bladder Campion.*



[Calyx not swollen, or, if so, hairy.

[Ovary surmounted by 4 or 5 slender styles (or flowers with stamens only).

Lych'nis.



[Flowers with 2 or 3 styles only.

[Styles 2 ; leaves with 3 or 5 strong, longitudinal nerves.

Sapona'ria officina'lis. *Soapwort.*

[Styles 3 ; leaves with a single mid-rib. **Sile'ne.**



[Sepals not united, or only near their base.

[Leaves mostly in whorls of 4 or more at one level.

[Leaves wider towards their apex, mostly whorled in fours ; styles 3-branched.

Polycar'pon tetraphyl'lum. *All-seed.*



[Leaves very narrow throughout, semi-cylindric ; styles 5.

Sper'gula arven'sis. *Spurry.*



[Leaves opposite (or in opposite tufts).

[Leaves very narrow, with conspicuous white stipules at their base.

Spergula'ria ru'bra. *Sandspurry.*



[Leaves without stipules.

- Petals distinctly notched or 2-cleft at their tip, sometimes so deeply as to appear as if they were twice as many.
- Lower leaves stalked, from $\frac{1}{4}$ inch to over an inch wide.
- Stella'ria.**
- Leaves not stalked (rarely over $\frac{1}{2}$ inch wide).
- Ovary surmounted by 3 styles; fruit opening by 3 or 6 teeth or valves.
- Stella'ria.**
- Ovary with 4 or 5 styles; fruit opening by 8 or 10 short teeth.
- Ceras'tium.**
- Petals not notched or cloven, sometimes very small or altogether absent.
- Flower-stalks 3 or more from one point, in an "umbel"; petals slightly jagged.
- Holos'teum umbella'tum.**
- Flowers not in an umbel.
- Ovary with 3 styles (or, if more, the leaves either 3-nerved or thick and fleshy).
- Arena'ria. Sandwort.**
- Ovary surmounted by 4 or 5 styles.
- Sepals 4, with fine points and broad white margins; fruit opening by 8 teeth.
- Moen'chia erec'ta.**
- Sepals 5, or, if 4, bluntish; fruit opening by 4 or 5 teeth; leaves very narrow.
- Sagi'na. Pearlwort.**



CHENOPODIA'CEAE. (22, 24).

- Leaves cylindrical, with prickly points, and a flattened base.
- Sal'sola Ka'li. Saltwort.**
- Leaves without prickly points.
- Stem with opposite, cylindrical, jointed branches, without any distinct leaves.
- Salicor'nia herba'cea. Marsh Samphire.**
- Plant without jointed branches.
- Leaves cylindrical, very fleshy and succulent; flowers minute.
- Suae'da. Sea-Blite.**
- Leaves flat.



[Stamens and ovaries in different flowers, the latter with 2 sepals only, which enlarge in fruit.

A'triplex. *Orache.*

[Stamens and ovary together; fruit not of 2 sepals.

[Leaves thick, fleshy, green, and shining; flowers 2 or 3 together, mostly with bracts.

Be'ta marit'ima. *Wild Beet.*

[Leaves not fleshy, often mealy; flowers in little compact clusters. **Chenopo'dium.** *Goosefoot.*



COMPOSITAE. (18).

In this Order the individual flowers which make up the "head" are usually called "florets" (*a*). They have no evident calyx, its place being taken, in some of the Genera, by a "pappus" of scales (*b*) or hairs (*c*), more especially evident in fruit (*e.g.*, the familiar "thistledown"). Some of the Species can therefore only be well determined as the fruits ripen in the older (faded) flower-heads.

"Bracts" in the Keys to this Order, means those which surround the flower-heads (*d*).

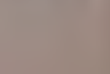


[Leaves opposite. **GROUP I.**
Leaves not opposite.

[All the florets irregular and one-sided, more or less strap-shaped.

GROUP II.

[The central florets (at least) regular, 5-toothed or 5-cleft, sometimes very small and scarcely opening.



[Leaves with prickly teeth or points; or the "bracts" ending in a spine or hook, or toothed or fringed at their tip. **GROUP III.**

[Neither leaves nor bracts prickly nor fringed.

[Outermost florets of each head spade- or strap-shaped, evidently longer, or more spreading, or differently coloured from the central one.

GROUP IV.

[Outermost florets not differing from the rest, or inconspicuous, or hidden by the bracts.

GROUP V.

[Fruits (or some of them) narrowed into a distinct, slender "beak" at the upper part (at least when ripe), which bears the pappus.]

[All the leaves from the root, the flower-stalk leafless and hollow.]

Tarax'acum Dens-leo'nis. *Dandelion.*

[Stem more or less leafy.]

[Leaves not hairy; fruits more or less flattened (see *b* above); heads with rather few florets.]

Lactu'ca. *Lettuce.*

[Leaves hairy; fruits not flattened (see *a* above); heads with numerous florets.]

Cre'pis. *Hawk's-beard.*

[Fruits with no distinct beak at top, the pappus springing from the apex of the fruit itself.]

[Leaves at the middle of the stem projecting on each side of the base in pointed, or large rounded and toothed, "auricles."]

[Leaves with numerous teeth, or, with toothed segments; fruits flattened; stem hollow.]

Son'chus. *Sowthistle.*

[Leaves (and segments) with few teeth, or none; fruits not flattened.]

Cre'pis. *Hawk's-beard.*

[Leaves with small, rounded, entire auricles, or none, or leaves all from the root.]

[Pappus pure white, silky; fruits more or less narrowed at the top.]

Cre'pis. *Hawk's-beard.*

[Pappus dirty-white or brownish; fruits not narrowed at the top.]

Hiera'cium. *Hawkweed.*

GROUP III.

[Leaves with prickly teeth or points, or edged with sharp bristles.]

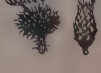
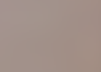
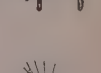
[Innermost bracts long and very narrow, shining, surrounding the head like rays.]

Carli'na vulga'ris. *Carlina Thistle.*

[Bracts not shining and radiating, various in arrangement. (Including *Onopordon*, see under *Carduus*)]

Car'duus. *Thistle.*

[Leaves not prickly or bristly.]



Bracts, or some of them, bristle-like, ending in a hooked point, so as to form a "bur," which clings readily.

All the heads bur-like; leaves wide, with shallow teeth or none.

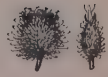
Ar'ctium Lap'pa. *Burdock.*

Only the lower heads bur-like; leaves strongly toothed.

Xan'thium Struma'rium. *Burweed.*

Bracts ending in a straight spine (not hooked), or flat and with the tip toothed or fringed.

Centaure'a.



GROUP IV.

The outer, strap-shaped florets yellow.

Bracts narrow and equal in length, with or without a few minute outer ones.

Flowering stem bearing only very small, entire, woolly leaves, root-leaves large and roundish.

Tussila'go Far'fara. *Coltsfoot.*

Flowering stem bearing well-formed leaves.

Outer, strap-shaped florets very narrow and numerous (over 30).

Doroni'cum.

Strap-shaped florets not more than 20, usually rather wider.

Sene'cio.

Bracts of different lengths, overlapping each other like scales, or large and leaf-like.

Pappus absent; outer florets very wide.

Upper leaves with few, entire divisions; no scales among the florets.

Chrysan'themum seg'etum. *Corn Marigold.*

Leaves deeply divided into several toothed segments; florets mixed with scales.

An'themis tincto'ria. *Yellow Chamomile.*

Fruits with a pappus; outer florets narrow.

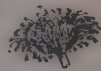
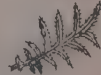
Outer strap-shaped florets very numerous, more than 20.

In'ula.

Outer, strap-shaped florets from 6 to 12 only; the flower-heads small and numerous.

Solida'go Virga-au'rea. *Goldenrod.*

Outer florets blue, white, red, or purple.



{ Outer florets numerous, but quite small and inconspicuous.

Erig'eron. }



{ Outer florets long and conspicuous.

{ Outer florets blue or purple ; fruits with a pappus of hairs.

As'ter Tripo'lium. *Sea Aster.* }



{ Outer florets white or pink.

{ Leaves all from the root of the plant, the flower-stalks bare.

Bel'lis peren'nis. *Daisy.* }



{ Flowering stem bearing leaves.

{ Leaves with simple, entire lobes, or divided into widish segments.

Chrysan'themum. }

{ Leaves narrow and edged with fine, short teeth, or cut into numerous, very narrow segments.

{ Outer florets very short and wide ; central ones greenish- or pinkish-white (rarely pale yellow).

Achille'a. }



{ Outer florets elongate ; central yellow.

{ Central florets with little scales growing among them (visible when the flower is split).

An'themis. }

{ No scales among the florets.

Matrica'ria. }



GROUP V.

{ Leaves (or some of them) deeply lobed or cut.

{ Heads purple, conspicuous, the florets more or less spreading.

Serrat'ula tincto'ria. *Sawwort.* }



{ Heads yellow (or pale, and the florets hidden).

{ Bracts all narrow and equal in length, or with a few minute outer ones.

Sene'cio. }



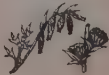
{ Bracts of different lengths, overlapping.

{ Heads stalked, in a flattish tuft at the top of the stem.

Tanace'tum vulga're. *Tansy.* }

{ Heads clustered along the sides of the stem and branches.

Artemis'ia. }



{ Leaves entire, or more or less toothed only.

[Bracts rounded and pure white or pale rose at the tips ;
leaves very woolly.



Antenna'ria.

[Bracts not white and rounded at the tips.

[Heads pink or purple.

[Bracts nearly all equal in length, with a few small
outer ones ; pappus not feathery.

Tussila'go Petasi'tes. *Butterbur.*

[Bracts of different lengths, overlapping each other ;
pappus feathery.

Saussu'rea alpi'na.

[Heads yellow (at least in the central part).

[Plant whitish, felted with cottony wool.

[Heads small, crowded, almost without separate
stalks. (Including *Filago*, with scales among
the florets). See for both genera under

Gnapha'lium.

[Heads over $\frac{1}{4}$ -inch, stalked ; corolla with two
ears at base.

Diot'is marit'ima.



[Plant green (smooth or hairy).

[All the florets regularly 5-cleft ; plant without
hairs.

As'ter.

[Outermost florets strap-shaped, or narrow and
threadlike ; plant usually hairy.

[Outer bracts with widish, more or less recurved,
points ; plant tall, aromatic.

I'nula Cony'za. *Ploughman's Spikenard.*

[Bracts all narrow, with fine points ; plant
small, not aromatic.

Erig'eron.



CRUCIF'ERAE. (11, 20, 23, 29).

Some of the species cannot be certainly distinguished without the fruit. Often, however, the lower flowers will be found in fruit, while the upper are still in bloom, and, even before the petals fall, it can generally be seen whether the ovary is going to become a short fruit, or a long, narrow pod.

[Flowers yellow or orange.

GROUP I.

[Flowers white, cream, pink, or purple (or petals
absent).

GROUP II.

GROUP I.

Upper leaves without any stalks, with projections or "auricles" at their base, usually clasping the stem at their insertion.



Fruit not more than 4 times as long as wide.

Fruit with a flat, thin "wing" all round it, and a single seed in the centre.



Isa'tis tincto'ria. *Woad.*

Fruit not winged, with several seeds.

Leaves scarcely narrowed at their base, with few, distant teeth.



Cameli'na sati'va. *Gold of Pleasure.*

Leaves narrowed at their base, with numerous teeth or lobes.



Nastur'tium.

Fruit several times as long as it is wide.

Fruit, or "pod," with a conical "beak" at the end over $\frac{1}{4}$ inch long; flowers large.



Bras'sica campes'tris. *Wild Turnip.*

Beak slender, scarcely $\frac{1}{8}$ inch, or none.

Most of the leaves deeply lobed; flowers bright yellow.



Barbare'a vulgā'ris. *Wintercress.*

Leaves rarely lobed; flowers pale.

Leaves all entire, without hairs, with rounded auricles at their base.



Erys'imum orienta'le. *Hare's-ear.*

Leaves either toothed, or with pointed auricles, the lower ones hairy.



Ar'abis.

Leaves stalked, or, if not stalked, without auricles.

Leaves about $\frac{1}{2}$ inch long; fruits very short.

Leaves fringed at the margin, in a rosette at the base of the plant; fruit oval.



Dra'ba aizoi'des.

Leaves not fringed, scattered, not forming a rosette at the base; fruit roundish.



Alys'sum calyci'num.

Leaves an inch long or more.

Pod divided by cross partitions; sepals erect, the 2 opposite ones very swollen at base.



Raph'anus Raphanis'trum. *Radish.*

Pod without cross partitions; sepals various.

Flowers about $\frac{1}{2}$ inch across, or more.

[Leaves all of them quite entire, dull green, with hairs pressed close to the surface.

Cheiran'thus Chei'ri. *Wallflower.*

[Leaves (at least the lower) more or less toothed or lobed.

Bras'sica.

Flowers rarely over $\frac{1}{4}$ inch across.

[All the leaves entire, or with distant, shallow teeth ; pod squarish in section.

Erys'imum cheiranthoi'des. *Treacle Mustard.*

[Leaves (at least the lower) deeply toothed or lobed.

[Pods erect and directed close up against the stem, the pods themselves rarely over $\frac{1}{2}$ inch long.

[Pods downy, tapering from the base upwards, on very short, stout stalks.

Sisym'brium officina'le. *Hedge Mustard.*

[Pods smooth, tapering near the top only, on slender stalks.

Bras'sica ni'gra. *Black Mustard.*

[Pods not pressed close up against the stem.

[Leaves entirely cut up into fine segments, or with narrow lobes turned backward towards the stalk ; pod slender.

Sisym'brium.

[Leaves not so divided or shaped.

[Leaves mostly divided nearly or quite to the midrib, or coarsely toothed with short wide fruit.

Nastur'tium.

[Leaves (at least the upper) not nearly divided to the midrib ; pods usually over 1 inch.

Bras'sica mura'lis.

GROUP II.

[Two adjacent petals, in some of the flowers, much longer than the others ; (fruit roundish).

[Leaves nearly all in a rosette at the base of the plant ; fruit not winged.

Teesda'lia nudica'u'lis.

[Stem leafy ; fruit bearing a thin wing on either side.

Ibe'ris ama'ra. *Candytuft.*

[Flowers all regular, with the petals equal.



Flowers showy, about $\frac{1}{2}$ inch or more across.

Leaves hairy, or felted with close down.

Leaves greyish with close-felted hairs, entire or lobed.

Matthi'ola. *Stock.*



Leaves green, not felted, mostly toothed or lobed.

Lower leaves deeply divided; pod with a slender beak.

Raph'anus Raphanis'trum. *Radish.*



Leaves toothed, not deeply divided; pod not beaked.



Hes'peris matrona'lis. *Dame's Violet.*

Leaves not hairy nor felted.

Leaves, at least the lower, divided into separate leaflets; fruit long and narrow.

Cardami'ne.



Leaves not divided into separate leaflets.

Two opposite sepals swollen at their base; fruit angular; flowers usually violet.

Caki'le marit'ima. *Sea Rocket.*



Sepals regular; fruit round or oval; flower white.

Fruit without any line of partition; lower leaves very wide, thick, and fleshy.

Cram'be marit'ima. *Seakale.*



Fruit with a strong vertical line on each side; leaves various.



Cochlea'ria.

Flowers rarely over $\frac{1}{4}$ inch across.

Fruit with a thin "wing" at the upper part.

Fruit winged at the top only, with 1 seed in each half; leaves (usually) hairy.

Lepid'ium.



Wing extending down the side, 4 to 8 seeds in each half; leaves without hairs.

Thlas'pi.



Fruit not winged.

Fruit short, wedge-shaped, narrowed to its stalk, with almost straight sides.

Capsel'la Bur'sa-pasto'ris.

Shepherd's-purse.



Fruit roundish, or oval, or long and narrow.

Small aquatic plant, with awl-shaped, entire, solid leaves.

Subula'ria aquat'ica. *Awlwort.*



Leaves not awl-shaped.

Fruit ("pod") several times as long as it is wide.

[Lower leaves about as wide as they are long, toothed round the margin.

Allia'ria officina'lis. *Jack-by-the-hedge.*



[Lower leaves longer than they are wide.

[Leaves all divided to the mid-rib (or nearly).

[Pod slender, the seeds in one row ; petals scarcely spreading (or absent). **Cardami'ne.**



[Pod rather turgid when ripe, seeds in two rows ; petals spreading wide.

Nastur'tium officina'le. *Watercress.*



[Leaves on the stem not deeply divided.

[All the leaves quite entire and without any hairs.

Erys'imum orienta'le. *Hare's-ear.*



[Lower leaves (at least) toothed, or lobed, or hairy.

Ar'abis.



Fruit not 4 times as long as it is wide.

[Leaves all cut into narrow segments or leaflets.

[Fruit longer than it is wide, smooth, without ridges or wrinkles.

Hutchin'sia petrae'a.



[Fruit wider than it is long, covered with little ridges or wrinkles.

Senebie'ra.



[Upper leaves not deeply cut, entire or toothed.

[Fruit with one large seed only in each half of the short pod. **Lepid'ium.**



[Fruit with several seeds in each half.

[Leaves not hairy, either long (6 to 18 inches) and harsh, or small and smooth.

Cochlea'ria.



[Leaves hairy or downy.

[Leaves narrow, entire ; fruit almost as wide as it is long.

Alys'sum.



[Leaves short and wide, toothed ; fruit a good deal longer than it is wide.

Dra'ba.



ERICA'CEAE. (7, 26).

(Omitting *Pyrola* and *Monotropa*, already sufficiently distinguished in the General Key).

If the specimen is in fruit, the species of *Vaccinium* are at once distinguished by the red or blue-black berries with the remains of the calyx-teeth at the top (see the fig. of *Vaccinium Vitis-idaea*), the calyx in all the other genera remaining at the base of the fruit.

Leaves opposite, or in whorls of 3 or 4 together.

{ Corolla deeply cleft, shorter than the pinkish calyx ; leaves closely 4-ranked.

Callu'na vulga'ris. *Ling. Heather.*

{ Corolla shortly toothed, much longer than calyx ; leaves mostly in whorls of 3 or 4. **Eri'ca.** *Heath.*

Leaves neither opposite nor whorled.

{ Corolla shortly toothed ; leaves usually $\frac{1}{2}$ inch long or more.

{ Leaves thick, leathery, their margins strongly rolled back ; fruit a red berry, or dry.

{ Leaves with tapering, acute points ; fruit a dry capsule.

Androm'eda polifo'lia.

{ Leaves with wide, bluntish tips ; fruit a berry.

{ Leaves not dotted on the back ; calyx at the base of the berry.

Arctostaph'ylos Uva-ur'si. *Bearberry.*

{ Leaves sprinkled with dark spots on the back ; calyx at the top of the berry.

Vaccin'ium Vitis-idae'a. *Cowberry.*

{ Leaves thin, flat ; berries blue-black.

{ Leaves toothed round their margin ; twigs green, furrowed.

Vaccin'ium Myrtil'lus. *Bilberry.*

{ Leaves entire, without any teeth ; the twigs not furrowed.

Vaccin'ium uligin'o'sum.

{ Corolla deeply cut into 4 narrow lobes ; leaves about $\frac{1}{4}$ inch long ; (berries red).

Vaccin'ium Oxyoc'cos. *Cranberry.*



FUMARIA'CEAE. (3, 19).

- [Fruit roundish, with one seed ; flowers more or less red-purple, at least at the tip ; no tendrils. **Fuma'ria officina'lis.** *Fumitory.*]
- [Fruit oblong, with several seeds ; flowers yellow or pale cream ; sometimes with tendrils. **Coryd'alis.**]

**LABIA'TAE.** (21, 26).

- [Upper lobe of corolla differing but little from the other 3 lobes, though often broader or notched.
- [Stamens 2 only ; leaves with rather long, narrow teeth or segments. **Ly'copus europae'us.** *Gipsywort.*
- [Stamens 4 ; leaves entire, or with numerous short teeth. **Men'tha.** *Mint.*]
- [Upper lobe more erect, or quite different in shape from the others, or almost absent.
- [Upper lobe of corolla minute, or very deeply notched, so as to appear as if absent.
- [Corolla with a deep cleft, through which the stamens protrude. **Teu'crium.**
- [Corolla with only a shallow notch, with a tooth on either side. **A'juga.**]
- [Upper lobe of corolla distinct, erect or arched.
- [Calyx with a broad, ridge-like projection across the back, and 2 lips. **Scutella'ria.** *Skullcap.*
- [Calyx without any transverse ridge on the back.
- [Calyx with 10 hooked teeth ; stamens hidden within the white corolla. **Marru'bium vulga're.** *White Horehound.*
- [Calyx with not more than 5 teeth.
- [Calyx with 15 ribs ; the inner pair of stamens the longest. **Nep'eta.**]
- [Ribs 5 or 10 ; outer stamens the longest.



Calyx with the 3 upper teeth more or less united in an upper "lip," which is deeply divided off from the 2 lower teeth.



Calyx thin and swollen, its lower teeth short and wide ; flowers very large and showy.



Melit'tis Melissophyl'lum.

Calyx not swollen, its lower teeth narrow.



Upper lip of corolla arched over the stamens.

Central upper tooth of calyx very wide ; flowers in a compact head.

Prunel'la vulga'ris. *Self-heal.*



Central upper tooth of calyx minute or indistinguishable.

Sal'via.

Upper lip of corolla straight or bent back.

Stamens (or 2 of them) diverging ; usually projecting beyond the corolla.



Thy'mus serpyll'lum. *Wild Thyme.*

Stamens converging in front of the upper lip of the corolla.



Calamin'tha.

Calyx with 5 nearly similar teeth.

Stamens (or 2 of them) diverging ; calyx-teeth with wide, bluntish points.



Orig'anum vulga're. *Marjoram.*

Stamens ascending ; calyx-teeth fine-pointed.



Lower lip of corolla with 2 tooth-like projections where the lateral lobes arise.

Galeop'sis.

Corolla without such tooth-like projections.



Lower leaves divided into 3 or more lobes, in addition to the teeth.

Leon'urus Cardi'aca. *Motherwort.*

Leaves toothed merely.

Calyx with 10 ribs and 10 deep, regular furrows from base to apex.

Ballo'ta ni'gra. *Black Horehound.*



Calyx not deeply 10-furrowed.

Lower lip of corolla either yellow and 3-lobed, or not yellow and with only a minute, sharp, tooth-like lobe on each side.

La'mium.



Lower lip of corolla not yellow, with the lateral lobes wider and usually rounded.

Sta'chys.



LILIA'CEAE. (15, 16).

The "leaves" in *Ruscus* and *Asparagus* are really branchlets, taking the place of true leaves. In *Allium* the flowers are often partially replaced by little bulbs.

- "Leaves" bristle-like, or with prickly points.
 - Leaves flat, with hard points, and flowers or berries on their flat surface.
 - Rus'cus aculea'tus.** *Butcher's Broom.*
 - Leaves bristle-like, in little tufts; flowers on stalks from the angles of the leaves.
 - Aspar'agus officina'lis.** *Asparagus.*
- No prickly pointed or bristle-like leaves.
 - Flowers rather shortly 6-toothed.
 - Leaves very slender; flowers blue, almost globular, in dense clusters.
 - Musca'ri racemo'sum.** *Grape Hyacinth.*
 - Leaves widish; flowers white or greenish.
 - Flowers scarcely longer than they are wide; leaves all from near the root.
 - Convalla'ria maja'lis.** *Lily-of-the-valley.*
 - Flowers two or three times as long; stem leafy.
 - Polygona'tum.** *Solomon-seal.*
 - Flowers divided nearly or quite to the base.
 - Stamens woolly with little hairs.
 - Flowers bright yellow; leaves short, set edge-ways to the stem; style short.
 - Narthe'cium ossif'ragum.** *Bog Asphodel.*
 - Flowers white, brown-purple outside; leaves narrow and long; style very slender.
 - Sime'this bi'color.**
 - Stamens not woolly.
 - A single whorl or circlet of (usually) 4 leaves on the stem below the flower.
 - Par'is quadrifo'lia.** *Herb-Paris.*
 - Leaves not in a whorl.
 - Flower-segments 4; stem with (usually) 2 heart-shaped leaves.
 - Maian'themum Convalla'ria.** *May Lily.*
 - Flower-segments 6.



Flower solitary (very rarely 2 together).

[No leaves till after flowering ; tube of the flower commencing below the ground.]

Col'chicum autumnale. *Meadow Saffron.*

[Leaves present ; flowers stalked.]

[Flowers bell-shaped, with wide segments.]

[Flowers yellow, not variegated, nearly erect when out. **Tu'lipa sylvestris.** *Wild Tulip.*]

[Flowers chequered in lines and spots, usually red-purple, drooping.]

Fritilla'ria Melea'gris. *Snake's-head.*

[Flowers with narrow, spreading segments, white with red lines ; (Snowdon Range only).]

Lloyd'ia serot'ina.

Flowers several.

[Flowers yellow, their stalks nearly from the same point.]

Ga'gea lu'tea. *Yellow Star-of-Bethlehem.*

[Flowers not yellow.]

[Flowers (or little "bulbs") in a dense, rounded head, or on stalks all springing from one point, in an umbel. **Al'lium.**]

[Flowers not in a head or umbel.]

[Flowers narrowly bell-shaped, the segments spreading only at the tips.]

Scil'la nu'tans. *Bluebell.*

[Flower segments spreading throughout.]

[Flowers blue or purple.]

Scil'la.

[Flowers white or greenish.]

[Flowers not $\frac{1}{4}$ inch, greenish ; styles 3 ; leaves set edge-ways to the stem.]

Tofiel'dia palus'tris.

[Flowers over $\frac{1}{2}$ inch across ; style single ; leaves not edge-ways.]

Ornithog'alum. *Star-of-Bethlehem.*



ORCHIDA'CEAE. (15, 19).

The "lip" is the petal (usually the lowest) which differs from all the rest. The swollen or stalk-like ovary, often twisted, is easily recognised below the flower. The 3 outer flower-segments are here called "sepals," the 3 inner "petals."

Plant not green, with only pale or brownish scales in place of leaves.

[Flowers pale yellow, the lip uppermost, with a spur on its back. **Epipo'gum aphyll'um.**]

[Flowers fawn-colour, the lip undermost, without any spur, cloven at the tip.

Neot'tia Ni'dus-a'vis. *Bird's-nest Orchis.*

Plant green, usually with developed green leaves.

[Flowers with a "spur" (which may be long, thick or slender, or very short and blunt) projecting from the back of the lip.

[Spur very slender, longer than the ovary.

[Flowers with the lip entire, or lobed at the end only, not on its surface.

Habena'ria.

[Lip 3-lobed at the tip, with 2 additional lobes on the surface near its base.

Or'chis pyramida'lis.

[Spur not longer than the ovary (or scarcely).

[Spur as long as half the length of the ovary, or more. **Or'chis.**]

[Spur not half the length of the ovary.

[Lip over an inch long and very narrow, or else short and 4-lobed.

Or'chis.

[Lip not more than $\frac{1}{2}$ inch long, 3-lobed (or 2-lobed) at the tip.

Habena'ria.

Flowers not spurred.

[Lip large, hollow, inflated, shaped like a slipper or *sabot*.

Cypripe'dium Cal'ceolus. *Lady's Slipper.*

[Lip not an inch long, not slipper-shaped.



Lip (or its middle lobe) distinctly notched or 2-cleft at the end.

{ Plant with only 2 opposite leaves on the stem ; lip narrow, 2-lobed. }

Lis'tera.



{ Plant with several leaves. }

{ Lip pale, deeply cloven into 4 very narrow lobes or segments. }

A'ceras anthropoph'ora. *Man Orchis.*

{ Lip dark-coloured, wide, only shortly notched at the end. }

Oph'rys.



Lip not notched or 2-cleft at the end.

{ Lip convex, hanging, dark-coloured, velvety (especially near the margin). }

Oph'rys.



{ Lip flat or concave, not velvety. }

{ Lip strongly constricted in the middle ; sepals often $\frac{1}{2}$ inch long (or smaller, and if so the plant with wide leaves). }



{ Flowers more or less stalked and drooping ; ovary not twisted. }

Epipac'tis.

{ Ovary not stalked, nearly erect, more or less twisted. }

Cephalan'thera.

Lip not constricted ; sepals $\frac{1}{4}$ inch or less.

{ Lip 3-lobed, the middle lobe tapering, longer than the lateral ones. }

Hermin'ium monor'chis. *Musk Orchis.*

Lip not lobed.

{ Ovary not stalked ; flowers white or pink. }

{ Flowers in a distinct spiral on the stem ; lip spreading at the tip, not hollow. }

Spiran'thes.

{ Flowers scarcely in a spiral ; lip with a bag-like hollow, and a narrow, recurved tip. }

Goodye'ra re'pens.

{ Ovary stalked ; flowers greenish-yellow. }

{ The two lateral petals much smaller than the sepals ; stem 5-angled. }

Malax'is paludo'sa. *Bog Orchis.*

{ The lateral petals nearly equal to the sepals ; stem 3-angled. }

Lip'aris Loesel'ii.

PAPAVERA'CEAE. (24).

- Flowers white, red, or purple.
- [Ovary and fruit roundish or oblong, 1 inch long or less ; flowers white or reddish. **Papa'ver.** *Poppy.*]
- [Ovary and fruit very narrow, lengthening to 2 or 3 inches ; flowers violet. **Roeme'ria hyb'rida.**]
- Flowers yellow.
- [Flower-stalks 3 or more from one point, in an umbel. **Chelido'nium ma'jus.** *Celandine.*]
- [Flowers not in an umbel.
- [Leaves stalked, deeply divided ; flowers on long stalks ; fruit oblong. **Meconop'sis cam'brica.** *Welsh Poppy.*]
- [Upper leaves without stalks ; flower-stalks short ; fruit often many inches long. **Glau'cium lu'teum.** *Horned Poppy.*]

**PAPILIONA'CEAE.** (3, 17, 20).

- [Leaves all replaced by green spines ; flowers bright yellow. **U'lex.** *Furze, Gorse.*]
- [Leaves (or leaf-like structures) present.
- [Leaves without leaflets, or with a pair only.
- [Leaves either long and grass-like, or short and angular at their base, or with a pair of leaflets. **Lath'yryus.**]
- [Leaves entire, more or less elliptical or oblong, not angular. **Genis'ta.**]
- [Some leaves (or all) with 3 or more leaflets.
- [Leafstalk of the lower, or all, leaves ending in a tendril or slender point. (*Vicia and Lathyrus*, see under) **Vic'ia.**]
- [Leaves ending in a terminal leaflet.
- [Leaves with 3 leaflets, and 2 additional ones where they join the stem, making 5 in all. **Lo'tus.**]
- [Leaflets not so arranged.



Leaves with only 3 leaflets.

[Calyx ending in 2 lips, each very shortly (or scarcely) at all) toothed.]

Cyt'isus scopar'rius. *Broom.*



[Calyx with 5 distinct teeth.]

[“Keel” (the lowest, folded petal) of corolla sharply pointed; flowers with a leaf below each one.]

Ono'nis. *Rest-harrow.*



[Keel blunt; flowers in heads or clusters.]



[Flowers in long, slender clusters, white or yellow, often very sweet-scented.]

Melilo'tus.



[Flowers in short clusters, or heads.]

[Fruit (“pod”) much curved or spirally twisted.]

Medica'go. *Medick.*

[Pod straight, or very nearly.]

[Flowers 2-5 together, white tinged with flesh-colour; pod much longer than the calyx; plant not hairy.]



Trigone'la purpuras'cens.

[Flowers many together, or, if few, yellow or pale straw-colour; pod shorter than the calyx.]



Trifo'lium. *Clover.*

Leaves with 5 or more leaflets.

[Flower-head with a divided leaf or bract close below it on the stalk.]

[Flowers several in the head, $\frac{1}{2}$ inch long or more; calyx swollen, enclosing the pod.]

Anthyl'lis Vulnera'ria. *Kidney Vetch.*



[Flowers usually 2 or 3 together, about $\frac{1}{4}$ inch; pod not enclosed.]

Ornith'opus perpusil'lus.



[Flower-head without a divided bract below it.]

[Flowers rosy, veined, the lateral petals (“wings”) minute and almost hidden.]

Onob'rychis sati'va. *Sainfoin.*



[Flowers yellowish or purple, the “wings” conspicuous, not hidden.]

[Flowers yellow, spreading horizontally; pod deeply notched.]

Hippocre'pis como'sa. *Horse-shoe Vetch.*



[Flowers dull-yellow or purple, erect; pod not notched.]

Astrag'alus. *Milk Vetch.*



ROSA'CEAE. (3, 4, 9, 18, 31, 32).

Trees, shrubs, or thorny plants.

Leaves deeply lobed, or with separate leaflets.

Plant with spines or thorns.

Leaves not divided down to the mid-rib ; branchlets ending in stiff points.

Cratae'gus Oxyacan'tha. *Hawthorn.*

Leaves with separate leaflets.

Leaves with awl-shaped stipules (or none), attached by their base ; calyx not swollen below the flower.

Ru'bus.

Stipules wider, attached down their side ; calyx swollen below the flower.

Ro'sa. *Rose.*

Plant not spinous nor thorny.

Leaves with entire leaflets ; flowers yellow.

Potentil'la frutico'sa.

Leaves with toothed lobes, or with separate toothed leaflets ; flowers white or pink.

Py'rus.

Leaves entire or toothed, not deeply cut.

Leaves small, quite entire, white-felted with dense, cottony down beneath.

Cotoneas'ter vulga'ris.

Leaves not at once entire and white-felted.

Flowers little over $\frac{1}{4}$ inch ; fruit dry ; leaves oblong, toothed, on very short stalks.

Spirae'a salicifo'lia.

Flowers usually larger ; fruit succulent.

Leaves often 4 inches, entire or finely toothed ; sepals longer than petals.

Mes'pilus german'ica. *Medlar.*

Calyx-lobes shorter than the petals.

Flowers with a single, distinct, central style ; fruit a plum or cherry ; leaf-stalk often with little swellings or "glands" where it joins the leaf.

Pru'nus.

Flowers with several styles ; fruit an apple, or pear-like ; leaf-stalk without glands.

Py'rus.

Herbs (not thorny), or low, depressed undershrubs.



Flowers with only a calyx (green or reddish).
 [Leaves lobed, or with leaflets diverging from one point ; flowers (usually) with 4 large, and 4 small outer segments. **Alchemil'la.**]



[Leaflets arranged in pairs down the stalk.
 [Stamens 4 only, not longer than the flower-segments.



Sanguisor'ba officina'lis. *Great Burnet.*

[Stamens numerous, hanging out from the lower flowers of the head.

Pote'rium Sanguisor'ba. *Salad Burnet.*

Flowers with a distinct calyx and corolla.

[Calyx covered on its outer surface with hooked spines. **Agrimo'nia Eupato'ria.** *Agrimony.*]



[Calyx without hooked spines.

[Calyx with 5 (or 4) very small outer segments, below and alternating with the 5 (or 4) larger ones.



[Leaves all with three leaflets ; flowers white.

[Petals notched ; ovaries not raised in a head within the flower.

Potentil'la Fragarias'trum.

[Petals (nearly) entire ; ovaries raised in a swollen head, red in fruit.



Fraga'ria ves'ca. *Strawberry.*



[Either flowers yellow or purple, or else lower leaves with more than 3 leaflets.

[Ovaries (and especially fruits) ending in a long bristle with a twisted or hooked point.

Ge'um. *Avens.*



[Ovaries and fruits without any such bristles or hooked points. **Potentil'la.**]



[Calyx without an outer row of small segments.

[Leaves about $\frac{1}{2}$ inch long ; flowers with about 8 or 10 petals.

Dry'as octopet'ala.



[Leaves 2 inches long or more ; petals 5.

[Flowers in dense clusters ; fruit dry ; leaves with 5 or more leaflets.

Spirae'a.



[Flowers solitary, or 2 or 3 together ; fruit succulent ; leaves lobed, or with 3 (rarely 5) leaflets.

Ru'bus.



UMBELLIF'ERAE. (11, 17, 18).

Most of the plants in this Order can be recognized in flower (even without the fruit). The calyx (a), mostly nearly entire, has in some Genera five evident teeth (b). The umbels, or groups of flower-stalks, are distinguished as "general," *i.e.*, the main set (c), and "partial," *i.e.*, those springing from the others (d). Either set may, or may not, have bracts below them (as at e).



Leaves entire, or with shallow lobes, not toothed.

Leaves pointed, entire, sometimes pierced by the stem, the stalk absent or at one end. **Bupleu'rum.**

Leaves roundish, faintly lobed, the stalk attached in the centre, but not piercing it.

Hydrocot'yle vulga'ris. Pennywort.

Leaves deeply divided, or toothed, or prickly.



Petals yellow.

Leaf-segments (of the lower leaves) wide.

Leaves hairy or downy; fruit very flat and thin-edged. **Pastina'ca sati'va.** Parsnip.

Leaves not hairy; fruit not flattened.

Leaves with few, large segments; each half of fruit with 3 ridges.

Smyr'nium Olusa'trum. Alexanders.

Leaf-segments numerous and small; each half of fruit with 5 ridges.

Ca'rum Petroseli'num. Parsley.

Segments narrow, several times as long as wide.

Leaf-segments solid and thread-like; no bracts under any of the umbels.

Foenic'ulum vulga're. Fennel.

Leaf-segments flat; bracts mostly present.

Umbels made up of about 6-8 branches; fruit scarcely flattened.

Sila'us pratensis. Pepper Saxifrage.

Umbels of 15-20 branches; fruit thin-edged; leaf-segments very narrow.

Peuced'anum officina'le.

Petals white, blue, or pink, not yellow.



Outside of the calyx covered, as is also the fruit, with little hooks, or bristles, or hairs, or scales, or growing out into a long beak.

Leaves with hard, prickly teeth ; flowers blue, in dense heads.

Eryn'gium.

Leaves not prickly ; flowers white or pink.

Leaves with about 5 deep lobes, diverging from the base, but not divided down to the stalk or midrib.

Bracts conspicuous, longer than the little flower-stalks ; calyx scaly. **Astran'tia ma'jor.**

Bracts small or absent ; calyx covered with little hooks.

Sanic'ula europae'a. *Sanicle.*

Leaves divided to the midrib, or much cut.

Bracts (mostly) deeply cleft.

Bracts cut into very narrow, diverging segments ; calyx and fruit oval.

Dau'cus Caro'ta. *Carrot.*

Bracts simply cloven ; ovary long and narrow, growing out into a beak.

Scan'dix Pec'ten. *Shepherd's-needle.*

Bracts entire or absent.

Leaves with few, large, distinct leaflets ; fruit flat, with a thick edge.

Tordyl'ium max'imum. *Hartwort.*

Leaflets (or segments) small or narrow.

Umbels with about 10-40 branches ; calyx and fruit with 5 distinct teeth.

Ses'eli Libano'tis.

Umbels rarely 10-rayed ; teeth minute.

Fruit with a smooth beak at the top ; stem swollen below the branches.

Chaerophyl'ium Anthris'cus.

Fruit covered to top with prickles or hooked bristles.

Cau'calis.

Calyx and fruit not prickly or bristly.

Outer flowers nearly $\frac{1}{2}$ inch across ; fruit flat, thin, with dark stripes half-way down it ; leaves very large, rough, hairy ; (calyx often hairy in flower).

Herac'leum Sphondyl'ium. *Hogweed.*

Plant without these combined characters.



No bracts (rarely 1) under the "partial" umbels.

All the leaves cut into narrow segments.

{ Stem and lowest leaves weak and slender at base,
easily pulled up, leaving a tuber underground.

Conopo'dium denuda'tum. *Pignut.*

{ Stem strong at base, with an ordinary tap-root,
firmly attached, the lowest leaves sheathing the
stem with dilated stalks.

{ Plant glaucous-green ; umbels 4- to 6-branched ;
stamens and ovaries on different plants.

Trin'ia vulga'ris. *Honewort.*

{ Plant not glaucous ; umbels about 8- to 12-
branched ; all flowers with stamens and
ovary.

Ca'rum Car'vi. *Caraway.*

{ Lowest leaves (or all) with wide leaflets.

{ Upper leaves with 3 large, oval, toothed leaflets.

Aegopo'dium Podagra'ria. *Goutweed.*

{ Leaves not of this nature.

{ Leaflets wedge-shaped, the lower ones stalked,
rather shining ; flowers greenish-white.

A'pium grave'olens. *Celery.*

{ Leaflets (of lowest leaves) oval or roundish, not
stalked, toothed or cut ; flowers white.

Pimpin'el'la.

Bracts present under the "partial" umbels.

{ Lower leaves (or all) with a single row of oval, toothed
leaflets down each side of the simple, unbranched
leaf-stalk.

{ Upper leaves similar to the lower ones.

{ Bracts under the "general" umbels absent, or 2
or 3 only.

A'pium.

{ Numerous bracts under all the umbels, both
"general" and "partial."

Si'um. *Water Parsnip.*

{ Upper leaves with very narrow segments.

{ Lower leaves with 3 or 4 pairs of lateral leaflets ;
petals deeply notched.

Si'son Amo'mum. *Stone Parsley.*

{ Lower leaves with 5 to 10 pairs of short leaflets ;
petals scarcely notched.

Ca'rum seg'etum. *Corn Parsley.*

{ Leaf-stalk (of lower leaves) branched, or leaves divided
into numerous or narrow segments.



Calyx with 5 more or less conspicuous teeth.

[Upper leaves with 3 wide, toothed leaflets, an inch or more in length.]

Ligusticum scoticum. *Lovage.*



[Upper leaves with narrow, or small, segments.]

[Plant intensely foetid; fruit with the alternate ridges waved.]

Coriandrum sativum. *Coriander.*



[Plant not foetid; ridges straight or absent.]

[Plant of ditches, or wet or moist places.]

[Leaves with rather few, narrow, toothed leaflets; fruit wider than long.]

Cicuta virosa. *Cowbane.*



[Leaf-segments numerous, or narrow and entire; fruit longer than it is wide.]

Oenanthe.

[Hill-plant of Devon and Cornwall; fruit wide, smooth, bladdery; uppermost leaves entire.]

Physospermum cornubiense.



Calyx-teeth absent, or very minute.

[Leaves with 3 or more wide, oval or 3-lobed leaflets; fruit much flattened.]

[Leaflets little lobed; umbels hoary with short hairs; fruit with a double thin edge.]

Angelica sylvestris. *Angelica.*



[Many leaflets 3-lobed; umbels not hoary; fruit with a single thin edge.]

Peucedanum Ostruthium. *Master-wort.*



[Leaves with narrow, or many small segments.]

[Segments of the leaves narrow, but thick, solid, and fleshy; maritime plant.]

Crithmum maritimum. *Samphire.*



[Leaves not (or scarcely) fleshy.]

[Leaves with solid and thread-like segments.]

[Only the lower, submerged leaves with thread-like segments.]

Apium inundatum.

[All the leaf-segments thread-like.]



[Leaf-stalk not branched, the segments in little tufts or whorls round it.]

Caerum verticillatum.

[Leaf-stalk branched, the segments not arranged in whorls.]

Meum athamaniticum. *Spiguel.*

[Leaf-segments flat, even if very narrow.]



- Stem spotted or blotched with purple.
 { Stem rough with short hairs ; fruit narrow, with straight ridges. **Chaerophyl'lum tem'ulum.**
 { Stem not hairy ; fruit short and wide, with waved ridges. **Coni'um macula'tum.** *Hemlock.*
- Stem not spotted with purple.
 { Bracts under the "general" umbel numerous.
 { Fen or marsh plant, with a tap-root ; fruit with a thin edge. **Peuced'anum palus'tre.**
 { Plant of chalky fields, with a tuberous root ; fruit not thin-edged. **Ca'rum Bulbocas'tanum.**
 { No bracts, or 1-3 only, under "general" umbel.
 { Bracts of "partial" umbels all turned down towards the outer side of the umbel. **Aethu'sa Cyna'rium.** *Fool's Parsley.*
 { Bracts not so arranged.
 { Plant not hairy, slender at base, and easily coming away from the buried tuber. **Conopo'dium denuda'tum.** *Pignut.*
 { Plant (usually) hairy ; root not tuberous.
 { Plant strongly aromatic ; ripe fruit $\frac{1}{2}$ inch long or more, strongly ribbed. **Myrr'his odora'ta.** *Sweet Cicely.*
 { Plant not aromatic ; ripe fruit scarcely $\frac{1}{4}$ inch long, quite smooth. **Chaerophyl'lum sylves'tre.** *Wild Chervil.*



VALERIA'NEAE. (19, 25, 27).

- Flowers with a slender spur at their base, and one stamen. **Centran'thus ru'ber.** *Red Valerian.*
 Flowers without a slender spur ; stamens 3.
 { Calyx ending in a striated ring, not toothed, feathery in fruit ; leaves at the middle of the stem divided nearly or quite to the mid-rib. **Valeria'na.** *Valerian.*
 { Calyx without a ring, not feathery in fruit ; leaves entire, or with projecting teeth. **Valerianel'la.** *Lamb's Lettuce.*





GENERA.

(WHICH CONTAIN MORE THAN ONE SPECIES
FOUND WILD IN ENGLAND AND WALES).

A'CER. (6).

- [Leaves bluntly lobed ; wings of the fruit diverging
almost in a line with each other. **campes'tre.** *Maple.*
Leaves sharply lobed ; wings of the fruit bent forwards
at an angle. **Pseu'do-plat'anus.** *Sycamore.*]



ACHILLE'A. (40).

- [Leaves deeply divided into numerous fine, narrow
segments. **Millefo'lium.** *Yarrow.*
Leaves narrow, evenly and finely toothed, but not
deeply cut. **Ptar'mica.** *Sneezewort.*]



A'JUGA. (47).

- [Leaves wide, more or less bluntly toothed ; flowers blue
or pale. **rep'tans.** *Creeping Bugle.*
Leaves most of them divided into 3 narrow lobes ;
flowers yellow. **Chamae'pitys.** *Ground Pine.*]



ALCHEMIL'LA. (23, 56).

- [Flowers in little clusters in the angles of the shortly
stalked leaves. **arven'sis.** *Parsley Piert.*
Flowers in stalked clusters at the end of the stem ;
lower leaves on long stalks.]



[Leaves divided to the base into 5-7 segments, silvery white beneath.

alpi'na.

[Leaves not divided half-way to the base, green on both sides.

vulga'ris. *Lady's-mantle.*



ALIS'MA. (12, 16).

[Leaves large, with 5 or 7 parallel nerves; ovaries in a single ring.

Planta'go. *Water Plantain.*

[Leaves 3-nerved; ovaries in several rows.

[Leaves narrow and tapering, usually standing erect on long stalks.

ranunculoi'des.

[Leaves floating flat on the water, about twice as long as they are wide, bluntish.

na'tans.



AL'LIUM. (50).

[Leaves flat, or folded lengthways, always present.

[Leaves with longish stalks, over an inch wide; flowers white.

ursi'num. *Ramsons.*

[Leaves not stalked.

[Stem triangular; flowers white, with green ribs; (Cornwall).

trique'trum.

[Stem round; flowers pinkish or purplish.

[Stamens longer than the flower-segments, with yellow anthers; bulbs rarely present.

Ampelopra'sum. *Wild Leek.*

[Stamens not longer, anthers purple; bulbs mixed with, or replacing the flowers.

Scorodopra'sum. *Sand Leek.*

[Leaves rush-like and hollow, or very narrow and solid, or altogether absent at flowering time.

[Bulbs present amongst, or replacing, the flowers.

[Stamens similar and undivided; one bract below the flower-head very long-pointed.

olera'ceum. *Field Garlic.*

[3 alternate stamens flat and 3-cleft; bracts rarely longer than the flower-head.

vinea'le. *Crow Garlic.*

[No bulbs amongst the flowers.



- [Flowers $\frac{1}{2}$ inch long, on stalks shorter than themselves ;
stamens not protruding, all similar. **Schoenopra'sum.** *Chives.*
Flowers $\frac{1}{4}$ inch ; stamens protruding, alternate ones
3-cleft ; (Bristol). **sphaeroceph'alum.**]



ALTHAE'A. (31).

- [Leaves not very deeply divided, covered with short, soft,
velvety hairs. **officina'lis.** *Marsh Mallow.*
Upper leaves deeply cut into 5-7 narrow segments,
rough with long stiff hairs. **hirsu'ta.**]



ALYS'SUM. (42, 45).

- [Petals strap-shaped, yellowish ; hairs on the leaves star-
shaped, felted ; fruit very shortly pointed. **calyci'num.**
Petals rounded, white ; leaf-hairs lying parallel and
pressed close to the leaf ; fruit with a slender point. **marit'imum.**]



ANAGAL' LIS. (27).

- [Corolla red, white, or blue, opening out flat ; calyx
nearly as long as the corolla. **arven'sis.** *Scarlet Pimpernel.*
Corolla pink, veined, bell-shaped ; calyx much shorter
than the corolla. **tenel'la.** *Bog Pimpernel.*]



ANCHU'SA. (33).

- [Leaves oval, widish ; corolla with rounded lobes, often
over $\frac{1}{2}$ inch across. **sempervi'rens.**
Leaves narrow ; corolla under $\frac{1}{2}$ inch across, with
tapering lobes. **officina'lis.** *Alkanet.*]



ANEMO'NE. (9).

- [Flowers purple, softly hairy outside ; leaves with very
narrow segments. **Pulsatil'la.** *Pasque-flower.*
Flowers white or pink, not hairy ; leaves with widish,
toothed segments. **nemoro'sa.** *Wood Anemone.*]



ANTENNA'RIA. (41).

{ Flowering stems 4-6 inches high, with only 4 or 5 flower-heads.

dioi'ca. *Cat's-foot,*

{ Plant 2-3 feet high, with numerous flower-heads; (South Wales and Monmouth).

margarita'cea.

**AN'THEMIS.** (39, 40).

{ The outer, radiating florets yellow; segments of the leaves toothed. **tincto'ria.** *Yellow Chamomile.*

{ Outer florets white; leaf-segments very narrow.

{ The white, outer florets without any style; leaves scarcely hairy.

Cot'ula. *Stinking Mayweed.*

{ The white, outer florets with a style; leaves with short hairs.

{ Scales between the florets with a fine point; flower-heads usually over 1 inch.

arven'sis. *Corn Chamomile.*

{ Scales thin, bluntish; flower-heads usually under 1 inch across.

no'bilis. *Chamomile.*

**ANTIRRHI'NUM.** (19).

{ Sepals narrow, tapering, nearly or quite as long as the corolla.

Oron'tium.

{ Sepals quite short, bluntish or rounded at their apex; corolla large.

ma'jus. *Snapdragon.*

**A'PIUM.** (59, 60).

{ No bracts under any of the umbels, or groups of flower-stalks, even the "partial," or smaller ones.

grave'olens. *Celery.*

{ Bracts present under the partial umbels.

{ All the leaves with several more or less oval, toothed leaflets.

nodiflo'rum.

{ Lowest (submerged) leaves with thread-like segments, upper leaves with a few narrow leaflets.

inunda'tum.



AR'ABIS. (42, 45).

Leaves about the middle of the stem with little projecting "auricles" (or lobes) on each side at their base.

Upper leaves without teeth on their margin, and quite free from hairs.

perfolia'ta. *Tower Mustard.*

All the leaves hairy, often more or less toothed.

Leaves on the stem nearly 2 inches long, with short, downy hairs; pods over 3 inches, drooping when ripe.

Turri'ta. *Towercress.*

Leaves on the stem small, rough with coarse hairs; pods 1-2 inches, erect.

hirsu'ta.

Leaves not auricled at their base.

Root-leaves entire or toothed, not deeply lobed.

Plant slender, without any rootstock; pods not twice as long as their slender, spreading stalks.

Thalia'na. *Thalecress.*

Rootstock woody; pods erect, 4-6 times as long as their stalks; (Pembrokeshire).

cilia'ta.

Leaves at the root mostly deeply lobed.

Leaves rough with stiff hairs; petals narrow, scarcely spreading, cream-coloured; (near Bristol).

stric'ta.

Leaves with few hairs; petals wide at tips, spreading, white or purplish; (alpine).

petrae'a.

ARENA'RIA. (35).

Leaves not 4 times as long as they are wide.

Leaves and stem thick and fleshy; sepals bluntish, longer than the very short flower-stalks; (petals varying in size).

peploi'des.

Leaves not thick and fleshy; sepals pointed, shorter than the flower-stalks; petals shorter than the sepals.

Leaves mostly $\frac{1}{2}$ inch long or more, the lower ones stalked, all distinctly 3-nerved (or 5-nerved).

triner'vis.

Leaves scarcely $\frac{1}{4}$ inch, not stalked, 1-nerved (rarely 3-nerved).

serpyllifo'lia.

Leaves very narrow, many times as long as wide.



- [Leaves solid, without any distinct nerve; flower-stalks often an inch long; (Teesdale). **uligino'sa.**
- [Leaves distinctly 3-nerved, at least in their lower part, near where they meet the stem; flower-stalks rarely over $\frac{1}{2}$ inch. **ver'na.**
- [Petals as long as, or longer than the sepals; flowers over $\frac{1}{4}$ inch across. **tenuifo'lia.**
- [Petals not nearly as long as the sepals; flowers under $\frac{1}{4}$ inch. **tenuifo'lia.**



ARTEMIS'IA. (40).

- [Leaves with bluntish segments, whitish, and silky or woolly, on both surfaces. **Absin'thium.** *Wormwood.*
- [Segments of the leaves $\frac{1}{8}$ inch wide or more; plant very aromatic. **mari'tima.**
- [Segments of the leaves numerous and very narrow; plant scarcely aromatic. **vulga'ris.** *Mugwort.*
- [Leaf-segments acute, green and scarcely hairy above. **campes'tris.**
- [Leaf-segments widish, sharply pointed, and toothed; flower-heads woolly, erect.
- [Leaf segments few, very narrow; flower-heads not woolly, drooping.



ASPER'ULA. (11).

- [Leaves very narrow, 4 together in a whorl (2 of them often very small); fruits not hairy. **cynan'chica.** *Squinancy-wort.*
- [Upper leaves 7-9 in a whorl, wider; fruits covered with hooked hairs. **odora'ta.** *Wood-ruff.*



AS'TER. (40, 41).

- [Bracts surrounding the flower-heads oblong, blunt; outer florets (usually) lilac and radiating. **Tripo'lium.** *Sea Aster.*
- [Bracts of the flower-heads very narrow, pointed; florets all yellow, none of them radiating. **Linosy'ris.** *Goldilocks.*



ASTRAG'ALUS. (54).

{ Stem rarely over 6 inches ; leaves 2 or 3 inches long, hairy ; flowers blue-purple.

dan'icus.

{ Stem a foot or more ; leaves 4-8 inches, not hairy on the upper surface ; flowers dull-yellow.

glyciphyl'los. *Milkvetch.*

**A'TRIPLEX.** (36).

{ Stem with white or red stripes ; leaves green, more or less sprinkled with white meal, which is easily rubbed off.

pat'ula. *Common Orache.*

{ Stem not striped ; leaves clothed with minute scales, which adhere closely.

{ Lower leaves more or less irregularly toothed, silvery white ; stem dull-red.

ro'sea.

{ Leaves quite entire.

{ Fruits without any stalk, clustered closely round the branches.

portulacoi'des. *Sea Purslane.*

{ Fruits each with a stalk as long, or longer than itself.

peduncula'ta.

**BAR'TSIA.** (21).

{ Calyx bearing hairs which are not swollen at their tips ; flowers red.

Odonti'tes. *Red Bartsia.*

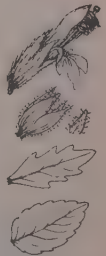
{ Hairs on the calyx with little glandular swellings on their tips.

{ Flowers yellow ; stem round ; leaves with few, rather deep teeth.

visco'sa.

{ Flowers dull-purple ; stem 4-angled ; leaves with shallow or obscure teeth.

alpi'na.

**BI'DENS.** (37).

{ Leaves without stalks, not deeply divided ; flower-heads drooping.

cer'nua. *Bur-Marigold.*

{ Leaves stalked, deeply divided into 3 or more parts ; flower-heads almost erect.

triparti'ta.



Flowering-branches forming the umbel $\frac{1}{4}$ inch long, or less, shorter than the bracts below them; plant rarely 4 inches. **arista'tum.**

Branches of the umbel $\frac{1}{2}$ inch long or more, much longer than the bracts below them; plant 1-4 feet. **falca'tum.**



CALAMIN'THA. (48).

The lower flowers of each cluster with long, hairy bristles below them and among them. **Clinopo'dium.** *Wild Basil.*



No long bristles below the flowers.

Calyx curved, swollen on the lower side near to its base. **A'cinos.** *Basil-Thyme.*



Calyx straight, without any conspicuous swelling on its under side. **officina'lis.** *Calamint.*



CAMPAN'ULA. (28).

Calyx long and narrow below, its teeth longer than the corolla. **hyb'rida.** *Corn Campanula.*



Calyx-teeth shorter than the bell-shaped corolla.

Flowers without separate stalks, most of them collected together in a terminal head. **glomera'ta.**



Flowers distinctly stalked.

Calyx bristly or hairy in its lower part.

Calyx-teeth strap-shaped, bent back soon after flowering; flowers longer than the bracts below them. **rapunculoi'des.**



Calyx-teeth wide, erect or spreading; lower flowers with leaves under them longer than the flowers. **Trache'lium.**



Calyx not hairy.

Leaves small, roundish, with a few angular lobes. **hedera'cea.** *Ivy-leaved Campanula.*

Upper leaves much longer than they are wide.

Calyx-teeth wide; all the leaves widish, and coarsely toothed. **latifo'lia.** *Giant Campanula.*

Calyx-teeth slender; upper leaves narrow, entire, or only faintly toothed.



Corolla not divided for more than one-third of its length ;
plant very slender.

rotundifo'lia. *Harebell.*

Corolla divided half-way down (or very nearly).

Calyx-teeth toothed near their base ; flowers on long-
ish stalks ; corolla-segments spreading widely.

pat'ula.

Calyx-teeth not toothed ; stalks scarcely longer than
flowers.

Rapun'culus. *Rampion.*



CARDAMI'NE. (44, 45).

Flowers $\frac{1}{2}$ inch or more across, petals spreading.

Upper leaves toothed, but not deeply cut, with little
bulbs in the angles of the stalks.

bulbifera. *Coralroot.*

All the leaves deeply cut.

Upper leaves with very narrow segments ; stamens
with yellow anthers.

praten'sis. *Cuckoo-flower.*

Upper leaves with oblong or angular segments ;
stamens with purple anthers.

ama'ra. *Bittercress.*

Flowers not $\frac{1}{4}$ inch ; petals nearly erect, or absent.

Leaf-stalks with narrow, fringed projections where
they join the stem ; petals often wanting.

impa'tiens.

Leaf-stalks with minute, rounded projections, or none ;
petals always present.

hirsu'ta.



CAR'DUUS (with ONOPOR'DON). (38).

Bracts round the flower-heads broad, with spinous teeth
projecting from their sides, and a long, recurved
point ; leaves with white patches.

C. Maria'nus. *Milk Thistle.*

Bracts not (or only finely) toothed at the sides.

Leaves fringed with fine, soft, bristly teeth, not
prickly, white-felted beneath.

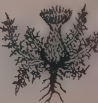
C. heterophyl'lus.

Leaves with stiff, prickly teeth.

Flowering stem very short, or almost none, the
flower-head close down to the ground.

C. acau'lis. *Dwarf Thistle.*

Stem present, often tall.



Stem with long, prickly wings running down it from the insertions of the leaves; bracts of the flower-heads (except in *C. palustris*) with fine, prickly points.

Pappus, or "thistle-down" (see page 36) with the hairs feathered.

Bracts scarcely spreading, except at the short, widish points, hardly prickly; heads oval, crowded in groups. **C. palus'tris.**

Bracts widely spreading, with slender, spinous points; heads large, roundish-oval.

C. lanceola'tus. *Spear Thistle.*

Pappus hairs not feathered.

Flower-heads oval or cylindric, small, inner bracts longer than florets. **C. pycnoceph'alus.**

Heads round, or florets much exceeding bracts.

Heads large, drooping, on curved stalks which are not prickly near the head; bracts widish, with a strong, distinct mid-rib.

C. nu'tans. *Musk Thistle.*

Prickly wings running right up to the head.

Heads often clustered, under 1 inch wide; bracts with a distinct mid-rib.

C. acanthoi'des. *Wetted Thistle.*

Heads not clustered, over 1 inch wide; bracts solid in the upper part, without any distinct mid-rib.

O. Acan'thium. *Scotch Thistle.*

Stem without prickly wings; (pappus not feathered).

Heads large, globular, very woolly; bracts with long, fine, spreading points, with reddish hairs near their tips. **C. erioph'orus.**

Heads oval; bracts with short, widish points.

Heads several, in clusters; corolla cloven down to where it narrows into a tube.

C. arven'sis. *Field Thistle.*

Heads solitary or few, not clustered.

Leaves not deeply divided; heads usually solitary, rarely two.

C. pratens'is.

Leaves mostly deeply divided; heads usually two, three, or four.

C. tuberosus.



CA'RUM. (57, 59, 60).

- Leaves only once divided, the segments or leaflets all attached to the main leaf-stalk.
- Leaves with 5-10 oval leaflets, which are more or less deeply toothed or lobed.
- seg'etum.** *Corn Parsley.*
- Leaves with numerous short, hair-like segments, spreading in all directions round the stalk.
- verticilla'tum.**
- Leaves more than once divided.
- Flowers yellow; the small, ultimate segments of the leaves widish.
- Petroseli'num.** *Parsley.*
- Flowers white; leaf-segments narrow.
- No bracts, or a single one only, under any of the umbels (or groups of flower-stalks).
- Car'vi.** *Caraway.*
- Bracts (3 or more) under all the umbels; root large and tuberous.
- Bulbocas'tanum.**

**CAU'CALIS.** (58).

- Flower-stalks very minute, the flowers and fruits in a compact little mass on one side of the stem.
- nodo'sa.**
- Flower-stalks longer, often slender.
- Several bracts always present under the main or "primary" umbel, or group of flowering branches.
- Leaves much divided; bracts fine and narrow; fruits covered all over with short, curved bristles.
- Anthrisc'us.** *Hedge Parsley.*
- Leaves only once divided, with cut leaflets; fruits with long prickles on the ribs only.
- latifo'lia.**
- No bracts, or a single one only, under the primary umbel.
- Upper part of the stem hairy; fruits small, covered all over with short bristles.
- arven'sis.**
- Stem not hairy, except just under the branches; fruits nearly $\frac{1}{2}$ inch when ripe, with long prickles on the ribs.
- daucoi'des.**



CENTAURE'A. (39).

{ Bracts surrounding the flower-heads ending in a long, straight spine, enlarged and toothed at its base. }

{ Heads purplish ; spines not cottony at the base. }

Calcitra'pa. *Star-thistle.*

{ Heads yellow ; spines cottony at the base. }

solstitia'lis.

{ Bracts short, ending in a dark-coloured fringe of fine, short teeth. }

{ Outer florets of the flower-heads bright-blue, much enlarged. }

Cy'anus. *Cornflower, Bluebottle.*

{ Florets purple (the outer enlarged or not). }

{ Fringed portion of the bracts sharply divided off from the rest ; upper leaves nearly entire. }

ni'gra. *Knapweed.*

{ Fringe running down the edge of the bracts ; most of the leaves deeply divided. }

Scabio'sa. *Hardhead.*

**CEPHALANTHERA.** (52).

{ Flower rose-purple, the "lip," or lower petal, narrow-pointed. }

ru'bra. *Red Helleborine.*

{ Flowers white, the lip wide and bluntish. }

{ Bracts under the flowers all longer than the grooved, stalk-like ovary ; leaves wide. }

pal'lens. *White Helleborine.*

{ Bracts (at least all the upper ones) much shorter than the ovary ; leaves usually narrow. }

ensifo'lia.

**CERASTIUM.** (35).

{ Petals not longer than the calyx (or very slightly) ; flowers rarely over $\frac{1}{4}$ inch across. }

vulga'tum. *Mouse-ear Chickweed.*

{ Petals twice as long as the calyx. }

{ Leaves narrow and pointed, mostly 5 or 6 times as long as they are wide. }

arven'se.

{ Leaves oval or oblong, bluntish, the larger ones about twice as long as they are wide. }

alpi'num.



CHAEROPHYLLUM. (58, 61).

[Fruit (and outside of the calyx in flower) bristly, except quite at the top.]

Anthris'cus. *Bur Chervil.*

[Fruit (and calyx of flower) not bristly.]

[Stem spotted with purple; fruit ribbed, especially when dry; leaf-segments with very short, wide points.]

tem'ulum. *Rough Chervil.*

[Stem not spotted; fruit smooth and shining; leaf-segments narrow-pointed.]

sylves'tre. *Wild Chervil.*

**CHENOPO'DIUM.** (36).

[Leaves more or less white and mealy.]

[Leaves quite entire, short and wide, with a disagreeable, foetid smell when rubbed.]

Vulva'ria.

[Leaves (mostly) toothed or lobed, not foetid.]

[Leaves pale-green, white and mealy on both surfaces, the upper ones narrow and entire.]

al'bum. *White Goosefoot, Fat Hen.*

[Leaves green on the upper surface, white beneath, all of them toothed.]

glau'cum.

[Leaves not mealy-white (or only the quite young leaves in *C. murale*).]

[Leaves entire, or very obscurely toothed.]

[Leaves large, dark-green, triangular, with minute pellucid vesicles on the underside.]

Bo'nus-Henri'cus. *Allgood.*

[Leaves small, oval or oblong, without pellucid vesicles.]

polysper'mum.

[Leaves coarsely toothed or lobed.]

[Leaves abrupt or heart-shaped at their base, with 2-4 large teeth on each side.]

hyb'ridum.

[Leaves narrowed towards their base.]

[Flowers at the side of each cluster with only 2-4 segments; plants often turning reddish.]

ru'brum.

[All the flowers with 5 segments (as is also the case with most of the other species of the genus).]



- Flowering branches straight and unbranched, the little clusters of flowers rather distant on them. **ur'bicum.**
- Flowering branches themselves much branched, with numerous little flower-clusters. **mura'le.** *Sowbane.*



CHRYSAN'THEMUM. (39, 40).

- Outer florets of the flower-head white.
- Leaves simply toothed or lobed; flower-heads over an inch across. **Leucan'themum.** *Ox-eye Daisy.*
- Leaves with divided lobes; heads under an inch across, the white florets very short. **Parthe'nium.** *Feverfew.*
- Outer florets yellow, very wide; (leaves simply toothed). **seg'etum.** *Corn Marigold.*



CHRYSOSPLE'NIUM. (24).

- Leaves opposite, roundish, all of their stalks short, or almost none. **oppositifo'lium.** *Golden Saxifrage.*
- Leaves not opposite, the lower ones on long stalks, almost kidney-shaped. **alternifo'lium.** *Golden Saxifrage.*



CIRCAE'A. (25).

- Upper flower-stalks without any bracts under them; fruit containing 2 seeds; whole plant usually more or less hairy. **lutetia'na.** *Enchanter's Nightshade.*
- All the flower-stalks with minute bracts where they join the stem; fruit with only 1 seed; plant without hairs except on the calyx and fruit. **alpi'na.**



COCHLEA'RIA. (44, 45).

- Leaves rough and harsh, mostly toothed or cut, the lowest ones 6-18 inches long. **armora'cea.** *Horseradish.*
- Leaves smooth, entire, or with very blunt lobes or teeth, rarely 2 inches long; both leaves and fruit varying from roundish to oblong. **officina'lis.** *Scurvy-grass.*



CONVOL'VULUS. (5, 26).

[Flower-stalk with 2 very small bracts only, at some distance from the flower.

arven'sis. *Lesser Bindweed.*

[Two large bracts, embracing the calyx.

[Flower-stalk with 4 membranous ridges or "wings" running down it; leaves short, wide, and thick.

Soldanel'la. *Sea Bindweed.*

[Flower-stalk not winged; leaves not thickened, more or less oblong, with projecting angles.

se'pium. *Greater Bindweed.*

**COR'NUS.** (6, 7).

[Herb; leaves (almost) without stalks; flowers surrounded by 4 white, petal-like bracts. **sue'cica.**

[Tree; leaves stalked; flowers without any bracts round them.

sanguin'ea. *Dogwood.*

**CORYD'ALIS.** (47).

[Leaf-stalk ending in a branched tendril; flowers whitish or pale.

clavicula'ta.

[Leaves without any tendrils; flowers yellow; (on old walls).

lu'tea.

**CRE'PIS.** (38).

[Leaves oval or oblong, entire or toothed, but not deeply divided.

[Leaves bluntish, entire or obscurely toothed; fruits with about 20 ribs.

hieracioi'des.

[Leaves sharp-pointed, mostly distinctly toothed; fruits with 10 ribs.

paludo'sa.

[Leaves (at least the lower) deeply divided, with narrow segments.

[Leaves quite without hairs (or a few on the mid-rib only), the upper ones very narrow, with narrow projecting "auricles" at their base.

virens. *Common Hawk's-beard.*

[Leaves hairy.



[Fruits narrowed at the top, but without any distinct beak (or stalk) below the pappus-hairs. **bien'nis.**]



[Fruits (at least the central ones) long-beaked.

[All the fruits with a long beak; small outer bracts of the flower-heads wide, white-edged. **taraxacifo'lia.**]



[The outermost fruits of the head scarcely beaked; the small outer bracts narrow, pointed. **foe'tida.**]



CRO'CUS. (16).

[Flowers appearing in spring, when the leaves are grown (*a*). **ver'nus.**]

[Flowers blooming in autumn, after the leaves have all faded (*b*). **nudiflo'rus.**]



CUS'CUTA. (24).

[Corolla with pointed lobes, its throat almost closed by conspicuous, incurved, fringed scales. **Epithy'mum.** Lesser Dodder.]



[Corolla with short, widish lobes, the scales small, not bent inwards, inconspicuous.

[Corolla nearly twice as long as the calyx, not swollen until some time after it opens. **europae'a.** Greater Dodder.]



[Calyx reaching up to the lobes of the corolla, which is much swollen. **Epili'num.** Flax Dodder.]



CYNOGLOS'SUM. (33).

[Leaves covered with very soft hairs, those at the middle of the stem narrowed at their base. **officina'le.** Hound's-tongue.]



[Leaves harsh with short, stiff hairs, those at the middle of the stem abrupt at their base. **monta'num.**]



DAPH'NE. (9).

[Leaves evergreen, leathery, almost without stalks; flowers greenish, in the angles of the upper leaves. **Laure'ola.** Spurge Laurel.]



[Leaves thin, stalked, not appearing till after the pink flowers, and above them. **Meze'reum.** Mezereon.]



DIAN'THUS. (34).

The bracts (or scales) outside the calyx not more than half its length.

[The bracts, and the calyx-teeth, narrow and long-pointed ; flowers scentless.

deltoi'des. *Maiden Pink.*

[Bracts and calyx-teeth broad, shortly pointed ; flowers scented ; (Somerset). **cae'sius.** *Cheddar Pink.*

The innermost bracts as long as the calyx ; the flowers usually clustered.

[The innermost bracts broad, blunt, membranous ; plant not hairy.

pro'lifer.

[The bracts all narrow and long-pointed ; plant slightly downy.

Arme'ria. *Deptford Pink.*

**DIP'SACUS.** (18).

Flower-heads elongated, their outer bracts much longer than those between the flowers ; plant tall and stiff.

sylves'tris. *Wild Teasel.*

Flower-heads globular, the outer bracts not longer than those between the flowers.

pilo'sus.

**DORONI'CUM.** (39).

The lower leaves deeply heart-shaped at their base, with long stalks.

Pardalian'ches. *Leopard's-bane.*

Lower leaves wedge-shaped or rounded at their base, but not heart-shaped.

plantagin'eum.

**DRA'BA.** (42, 45).

Flowers yellow ; leaves narrow, all of them fringed with stiff hairs.

aizoi'des.

Flowers white ; leaves more or less toothed.

[Petals with a deep notch at their tip ; all the leaves at the root of the plant.

ver'na. *Whitlow-grass.*

[Petals not (or scarcely) notched ; stem leafy.



Plant hoary with little close hairs ; fruit longer than its stalk, often twisted.

inca'na.

Plant green, rough with short hairs ; fruit shorter than the slender, spreading stalk.

mura'lis.



DROS'ERA. (32).

Leaves (or their terminal part) roundish, the leaf-stalk hairy. **rotundifo'lia.** *Sundew.*

Leaves elongated ; leaf-stalk not hairy.

Leaves 3 or 4 times as long as wide ; seeds with minute projections on their surface.

longifo'lia.

Leaves narrower ; seeds covered with a loose network (as also in *rotundifolia*).

an'gica.



E'CHIUM. (22, 23).

Stem spotted with the red swellings at the base of the hairs ; stamens protruding from the corolla.

vulga're. *Viper's Bugloss.*

Hairs on the stem softer, scarcely swollen ; stamens not, or only slightly, protruding ; (Cornwall).

plantagin'eum.



ELAT'INE. (13, 14).

Flowers stalked, with 3 petals and 3 styles, and 6 stamens.

hexan'dra.

Flowers not stalked, with 4 petals and 4 styles, and 8 stamens.

Hydrop'iper.



EPILO'BIUM. (10, 29).

Stem with ridges or raised lines running down it from the margins of the leaves.

Leaves oval or elliptical, narrowed at their base and apex, distinctly stalked.

ro'seum.

Leaves narrow throughout, not (or scarcely) stalked ; ridges on stem usually strong.

tetrago'num.

Stem without ridges.



[Petals entire (or nearly), spreading from their base ;
calyx-lobes free to their base.

angustifo'lium. *Rose-bay.*

[Petals notched, erect at their base.

[Stigma deeply 4-cleft.

[Leaves slightly running down on the stem ; stigma-lobes curled back.

hirsu'tum. *Great Willow-herb.*

[Leaves rounded or stalked at their base.

[Leaves softly hairy all over, the middle ones (at least) not stalked.

parvifo'rum.

[Leaves not hairy, except on the veins and mid-rib, mostly more or less stalked.

monta'num.

[Stigma club-shaped, not 4-cleft.

[Leaves shining, widish, distinctly toothed and pointed ; (Wales and North of England).

alsinefo'lium.

[Leaves scarcely toothed, points bluntish.

[Lowland plant, often over a foot high ; leaves very narrow.

palus'tre.

[Rare alpine plant, seldom over 6 inches high ; (North of England).

alpi'num.

EPIPAC'TIS. (52).

[Base of the lowest petal, or "lip" rounded where it joins the (usually pointed) terminal part.

latifo'lia. *Helleborine.*

[Base of "lip" with projecting angles, terminal part rounded at the apex.

palus'tris.

ERI'CA. (10, 46).

[Stamens protruding beyond the wide, pale, deeply toothed corolla ; (Cornwall).

va'gans. *Cornish Heath.*

[Corolla shortly toothed ; stamens enclosed.

[Calyx-segments not hairy ; leaves mostly 3 in a whorl (often with little tufts in their angles).

cine'rea. *Bell Heather.*

[Calyx-segments fringed with long, gland-tipped hairs ; leaves 4 or 5 in a whorl.



Flowers about $\frac{1}{2}$ inch long, all collected at the top of the stem; leaves narrow, 3 or 4 times as long as they are wide.

Tet'ralix. *Cross-leaved Heath.*

Flowers nearly $\frac{1}{2}$ inch long, arranged down the stem; leaves wider; (Cornwall and Dorset). **cilia'ris.**



ERIG'ERON. (40, 41).

Bracts round the flower-heads roughly hairy, much shorter than the bluish outer florets.

a'cris. *Blue Fleabane.*

Bracts white-edged, with a few scattered hairs, or none, nearly equalling the white outer florets.

canaden'sis.



ERO'DIUM. (17, 32).

Leaves divided into separate leaflets.

Leaflets deeply cut; stipules narrow-pointed; stamens not toothed at the base.

cicuta'rium. *Storks-bill.*

Leaflets toothed; stipules wide, short-pointed; stamens with a tooth on each side; plant smelling of musk.

moscha'tum.

Leaves toothed and lobed, but not divided into separate leaflets.

marit'imum.



ERYN'GIUM. (58).

Leaves without deep lateral divisions; bracts below the flower-heads wide; plant and leaves pale bluish green.

marit'imum. *Sea Holly.*

Leaves divided at the sides nearly to the mid-rib; bracts narrow.

campes'tre.



ERYS'IMUM. (42, 43).

Leaves narrowed at their base, not clasping the stem; pods about an inch long.

cheiranthoi'des. *Treacle Mustard.*

Leaves clasping the stem with rounded "auricles"; pods 2-4 inches long.

orienta'le. *Hare's-ear.*



EUPHOR'BIA. (17, 22).

[Leaves opposite on the stem.

[Plant prostrate on the ground ; leaves one-sided at their base. **Pep'lis.**

[Plant tall and erect ; leaves long, equal-sided, in pairs on the stout stem.

Lath'yris. *Caper Spurge.*

[Leaves not opposite (except just under the flowering branches).

[The 4 projections, or "glands," surrounding the ovary and stamens, rounded, without points.

[Leaves quite entire ; ovary and fruit covered with longish cylindrical projections. **hiber'na.**

[Leaves finely toothed towards their apex.

[Leaves very wide and blunt at their apex ; ovary and fruit smooth.

Heliosco'pia. *Sun Spurge.*

[Leaves narrowed or pointed at their apex.

[Leaves hairy ; ovary and fruit with minute projections, usually hairy.

pilo'sa.

[Leaves not (or scarcely) hairy ; fruit with wart-like projections, not hairy.

platyphyl'los.

[The "glands" surrounding the flowers crescent-shaped, with projecting points.

[Leaves (or bracts) at the base of the flowering branches joined together across the stem.

amygdaloi'des. *Wood Spurge.*

[Leaves not joined across the stem.

[Upper leaves not much longer than wide ; ovary and fruit with deep furrows at the angles.

Pep'lus. *Petty Spurge.*

[Leaves narrower ; fruit scarcely furrowed at the angles.

[Bracts under the flowers narrow ; (leaves on the stem very narrow). **exig'ua.**

[Bracts nearly or quite as wide as long.

[Stem ending in an umbel of 8-12 branches springing together from its apex ; (plant of northern woods). **E'sula.**

[Not more than 7 branches in the umbel.



[Leaves leathery, bluntish, only those at the top of the stem spreading.

Para'lias.

[Leaves scarcely leathery, distinctly, though often shortly pointed, widely spreading.

segeta'lis. *Portland Spurge.*



FILA'GO. (41).

[Clusters of flower-heads small, surrounded by leaves much longer than the cluster.

gal'lica.

[Leaves not (or little) exceeding the clusters.

[Heads in the main cluster 12-30, their bracts with long, narrow, thread-like points.

german'ica. *Cudweed.*

[Bracts rather bluntly pointed; not more than 3-10 heads in a cluster.

min'ima.



GALEO'PSIS. (48).

[Stem swollen below the branches, harsh with stiff, spreading hairs.

Tet'rahit. *Hemp-nettle.*

[Stem not swollen, more or less softly hairy.

[Corolla red or variegated, its upper lip only slightly notched.

Lad'anum.

[Corolla large, pale yellow, its upper lip deeply notched.

ochroleu'ca.



GA'LIUM. (11).

[Leaves 3-nerved; (4 in a whorl).

[Flowers yellow; leaves hairy, not twice as long as they are wide; fruit smooth.

Crucia'ta. *Crosswort.*

[Flowers white; leaves more than twice as long as they are wide; fruit bristly.

borea'le.

[Leaves with only one longitudinal nerve.

[Flowers yellow, small and numerous; leaves very narrow and parallel-sided.

ve'rum. *Lady's Bedstraw.*

[Flowers white; leaves mostly wider near their tips than near their base.



Upper leaves 4 in a whorl, bluntish ; (stem either smooth or rough).

palus'tre.



Leaves nearly all 6-8 in a whorl, pointed.

Stem without prickles, smooth or hairy.

Corolla-lobes narrowed to a slender projection at their point ; fruit smooth.

Mollu'go.



Corolla not narrow pointed ; fruit covered with little tubercles.

saxat'ile.



Stem rough with downward-pointing prickles.

Calyx and fruit covered with hooked bristles ; leaves bristly on their surface and margin.

Apari'ne. Cleavers.



Calyx and fruit not bristly ; leaves with prickly teeth on their margin only.

Leaves usually under $\frac{1}{2}$ inch long, their marginal teeth pointing forwards, towards the apex.

an'glicum.



Teeth of the leaves pointing backwards.

Coarse plant, of cornfields, etc. ; flowers 1-4 together ; fruit-stalks curved inwards.

tricolor'ne.



Slender plant, of marshes and ditches ; flowers clustered ; fruit stalks straight.

uligino'sum.



GENIS'TA. (48, 53).

Plant with spines ; leaves without stipules ; pods short, much swollen.

an'gica. Needle Furze.



No spines ; leaves with little tooth-like stipules.

Leaves with a distinct point ; corolla and pod without hairs.

tincto'ria. Dyer's Greenweed.

Leaves without any point ; corolla and pod more or less covered with hairs.

pilo'sa.



GENTIA'NA. (26, 27).

Calyx with 4 very unequal segments, 2 wide and 2 narrow ; corolla with 4 segments.

campes'tris. Field Gentian.



Calyx (and usually corolla) with 5 segments.

[Corolla purplish, fringed at the throat with long projecting hairs.

Amarel'la. *Felwort.*

[Corolla blue, not hairy at the throat.

[Corolla with 5 small, 2-cleft scales between the 5 spreading lobes.

ver'na.

[Corolla open at the throat, without scales between the lobes.

Pneumonan'the. *Marsh Gentician.*

GERA'NIUM. (32).

[Flower-stalks not branched, each bearing one large flower, with 2 little bracts on the stalk.

sanguin'eum.

[Flower-stalks branched, with 2 or more flowers.

[Petals distinctly notched at their tip.

[Leaves divided almost down to the leaf-stalk.

[Petals strongly notched; leaves with more or less spreading hairs.

dissec'tum.

[Notch shallow, or partly filled by a tooth; hairs on the leaves lying flat and parallel.

columbi'num.

[Lower leaves not divided nearly to the stalk.

[The ovaries or "carpels" (best seen after the petals have fallen) wrinkled, not hairy.

mol'le.

[Carpels not wrinkled, hairy or downy.

[Petals twice as long as the sepals, red-purple; flowers about $\frac{1}{2}$ inch across.

pyrena'icum.

[Petals rarely much longer than the sepals; flowers about $\frac{1}{4}$ inch.

pusil'lum.

[Petals rounded at their tip, or with a very shallow depression, or jagged.

[Leaves with 3 (or 5) much cut, stalked segments; plant with a disagreeable smell when rubbed.

Robertia'num. *Herb Robert.*

[Leaf-segments 5 or more, not stalked.

[Calyx sharply 5-angled, the sepals with transverse ridges or wrinkles.

lu'cidum.

[Sepals without transverse ridges.



- Sepals with a very short projecting point.
- [Flowers large, blackish-purple; leaves mostly 3-5 inches wide; their segments with numerous teeth. **phae'um.**
 - [Flowers small, pinkish; leaves rarely over an inch wide, their segments with about 3 (or 5) teeth. **rotundifo'lium.**
- Sepals with a slender, bristle-like point.
- [Lobes of leaves with few divisions, hairs few, lying flat on the surface; sepals tapering towards the point. **columbi'num.**
 - [Leaves with spreading hairs or soft down; sepals bluntish below the bristle-point.
 - [Flowers about $\frac{3}{4}$ inch across; petals narrow, hairy at base on surface and margins; fruit-stalks (mostly) erect. **sylvat'icum.**
 - [Flowers over 1 inch; petals hairy below at margins only; fruit-stalks mostly bent. **praten'se.**

GE'UM. (56).

- [Flowers small, yellow; fruits in a head which is not raised above the calyx. **urba'num.** *Avens.*
- [Flowers purplish-brown; head of fruits raised on a stalk above the calyx. **riva'le.** *Water Avens.*

GNAPHA'LIIUM (with **FILA'GO**). (41).

- [Bracts round flower-heads without hairs; flowers dull-red. **G. lu'teo-al'bum.** *Jersey Cudweed.*
- [Bracts hairy below; flowers yellow or brownish.
- [Leaves dark-green, not cottony on their upper surface; flower-heads in the angles of the leaves on the stem. **G. sylvat'icum.**
 - [Leaves grey and cottony on both surfaces.
 - [Flower-heads much exceeded by the leaves round.
 - [The larger leaves much narrowed near their base, suddenly pointed; outer bracts blunt. **G. uligino'sum.**
 - [Leaves scarcely narrowed, tapering to the point; outer bracts pale, with longish points. (See) **Fila'go.**
 - [Heads scarcely exceeded. (See) **Fila'go.**



HABENA'RIA. (51).

- Spur slender, longer than the stalk-like ovary.
- Flowers pale, almost white; the lowest petal, or "lip," long and narrow, not lobed. **bifo'lia.** *Butterfly Orchis.*
- Flowers red-purple; lip short and wide, distinctly 3-lobed. **conop'sea.** *Fragrant Orchis.*
- Spur very short and blunt, or pouch-like.
- Flowers white; lip scarcely longer than the sepals, its middle lobe the longest. **al'bida.**
- Flowers greenish; lip much longer than sepals, its middle lobe the shortest. **vir'idis.** *Frog Orchis.*

**HELIAN'THEMUM.** (30).

- Flowers white; leaves whitish, with the margins rolled back; (stipules present). **polifo'lium.**
- Flowers yellow; leaf-margin flat, or nearly so.
- Leaves with narrow stipules where they join the stem, green on the upper surface. **vulga're.** *Rockrose.*
- Leaves without any stipules at their base; flowers rather small. **ca'num.**

**HELLEB'ORUS.** (23, 25).

- Flowers rarely more than 4, the segments spreading; bract under the flower-stalk toothed or divided. **vir'idis.** *Bear's-foot.*
- Flowers numerous, the segments converging (in flower); bract entire, or nearly so. **foe'tidus.** *Setter wort.*

**HIERA'Cium.** (38).

- Stem creeping; leaves small, white-felted beneath; heads pale-yellow, their stalks leafless. **Pilosel'la.** *Mouse-ear Hawkweed.*
- Stem not creeping; leaves green; flowering stem (usually) with one or more leaves on it.
- Outer bracts round the flower-heads almost without hairs, recurved at their tips. **umbella'tum.**
- Bracts not recurved at their tips, often hairy.



- [Rare northern plants, the leaves on the stem (or their stalks) growing round it, and clasping it with their base.
- [Stem leafy, without any tuft of leaves at its base when flowering. (*pr.*) **prenanthoi'des.**
- [Leaves tufted at the base of the plant, those on the stem few. (*ce.*) **cerinthoi'des.**
- [Stem-leaves not (or scarcely) clasping, or absent.
- [No tuft of leaves at the base of the plant at the time of flowering. **sabau'dum.** *Savoy Hawkweed.*
- [Leaves present at the base of the plant, those on the stem none, or few, or many, but smaller.
- [Alpine plant; stem (and bracts) shaggy with long soft hairs; flower-heads solitary (rarely 2), over an inch across. **alpi'num.**
- [Stem less or not hairy; heads (usually) 2 or more, $\frac{3}{4}$ –1 inch across; plant growing everywhere. **muro'rum.**



HYPER'ICUM. (6, 30).

- [Leaves hairy.
- [Leaves rounded, woolly; sepals fringed with crimson projecting glands. **Elo'des.**
- [Leaves oblong, with short hairs; sepals narrow, pointed, edged with dark glands. **hirsu'tum.**
- [Leaves not hairy.
- [Sepals edged with projecting red or dark glands.
- [Stem prostrate or trailing, slender; sepals oblong, little shorter than the petals. **humifu'sum.**
- [Stem erect; petals at least twice the sepals.
- [Sepals blunt; stamens with red anthers; leaves on the main stem short, with a wide, clasping base. **pul'chrum.**
- [Sepals pointed; anthers (usually) pale.
- [Stem slender, rarely over 6 inches; leaves narrow, obtuse; sepals widish. **linarifo'lium.**
- [Stem stiff, tall; leaves oblong or oval, more or less pointed; sepals narrow. **monta'num.**
- [Sepals without projecting glands on their margin.



[Ovary with 5 styles ; flowers large, 3 or 4 inches across ; stem strong, but close to the ground.

calyci'num. *Rose of Sharon.*



[Ovary with 3 styles ; flowers rarely much over an inch in diameter.

[Stem with 4 strong raised lines or ridges, making it more or less distinctly 4-angled.

[Ridges on stem high ; sepals acute ; leaves (usually) with many pellucid dots when held against the light. **quadran'gulum.**



[Ridges low ; sepals (usually) obtuse ; leaves with few pellucid dots. **du'bium.**



[Stem round, or with only two raised lines.

[Stem slender, prostrate or trailing ; leaves $\frac{1}{2}$ inch long or less. **humifu'sum.**



[Stem strong ; leaves an inch long or more.

[Sepals narrow, acute ; stamens collected into 3 bundles ; leaves with conspicuous dots. **perfora'tum.** *St. John's-Wort.*



[Sepals wide, bluntish ; stamens in 5 bundles ; leaves usually over an inch wide, dots minute. **Androsae'mum.** *Tutsan.*



HYPOCHOE'RIS. (37).

[Bracts round the flower-heads covered with long, curly hairs ; leaves often spotted. **macula'ta.**



[Bracts hairless, or with a few short hairs in their middle line only.

[Bracts round the heads nearly as long as the florets ; leaves (usually) almost without hairs. **gl'a'bra.**



[Bracts much shorter than the florets ; leaves always roughly hairy. **radica'ta.** *Cat's-ear.*



IMPA'TIENS. (19).

[Flowers orange spotted with red, the spur closely bent back underneath. **ful'va.**



[Spur straight or only loosely bent back.

[Spur long and slender, bent backwards. **Noli-me-tangere.** *Yellow Balsam.*



[Spur very short, straight. **parviflo'ra.**

I'NULA. (39, 41).

Flower-heads large, 2 or 3 inches across, their outer bracts wide-oval.

Hele'nium. *Elecampane.*

Heads rarely 1 inch across, the bracts narrow.

Outer florets much longer than the bracts.

Leaves soft and downy, waved at the margins, clasping the stem with their base.

dysenter'ica. *Fleabane.*

Leaves not downy; leaves more or less succulent.

crithmoi'des. *Golden Samphire.*

Outer florets scarcely longer than the bracts.

Outer bracts scarcely hairy, more or less curved back at their greenish tips.

cony'za. *Ploughman's Spikenard.*

All the bracts narrow, hairy, and erect, their tips not curved back.

Pulica'ria. *Small Fleabane.*

**I'RIS.** (15).

Flowers bright-yellow, the 3 inner segments (surrounding the fringed, petal-like stigmas) small and erect (a).

Pseudac'orus. *Yellow Flag.*

Flowers blue-purple (or yellowish-white), the 3 inner segments longer and bent outwards (b); plant with a disagreeable smell when bruised.

foetidis'sima. *Gladdon.*

**JUN'CUS.** (14, 15).

Lowest bracts under the flowering branches, and barren stems, with stiff, hard, thorny points.

Flowers with the 3 inner segments dilated by a wide, pale, membraneous wing; fruit longer than the segments.

acu'tus.

All the 6 segments narrow and more or less acute, longer than the fruit.

marit'imus. *Sea Rush.*

Plant without hard, thorny points.

Flowers mostly without stalks, scattered over the upper half of the branched flower-stem, down to its middle.

bufo'nus. *Toad Rush.*

Flowers not so arranged.



[Flowers (apparently) at the side of the stem ; plant with-
no green leaves, only brownish scales.

[Flowers few (about 7), usually not more than half-way
up the very slender stem.

filifor'nis.



[Flowers numerous, usually nearer the top.

[Stem not striated or furrowed when fresh, weak and
pliable ; (flowers densely or loosely clustered).

commu'nis. *Common Rush.*

[Stem striated, stiff and somewhat rigid ; flowers in a
loose cluster.

glau'cus. *Hard Rush.*



[Flowers at the end ; plant with leaves, which are
cylindrical and rush-like, or flattened.

[Rare Cornish plants, 2 or 3 inches high.

[Flowers in a (usually single) terminal head, their
segments very fine-pointed ; fruit short and
wide.

capita'tus.

[Flowers in 3-5 clusters, their segments less finely
pointed ; fruit longer and narrower.

pygmae'us.



[Plant 6 inches high or more.

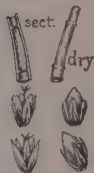
[Leaves cylindrical, hollow, with cross-partitions
inside when split open, making them look as if
jointed when dry.

[All the flower-segments blunt.

obtusifo'lius.

[The 3 outermost segments (at least) pointed.

articula'tus. *Jointed Rush.*



[Leaves without cross-partitions, grooved on the
upper side, or threadlike.

[Flowers about 2 or 3, close together at the end of
the stem.

biglu'mis.

[Flowers several, on longer stalks.

[Flower-segments with fine, narrow points ;
bracts very long and slender ; (Carnarvon
and Herefordshire).

ten'uis.

[Flower-segments wide-pointed or obtuse.

[Leaves all at (or surrounding) the base of
the stiff, solid, wiry stem, and much
shorter.

squarro'sus.

[Stem hollow, with 1 or 2 leaves higher up
(below the bracts).

compres'sus.



LACTUCA. 38.

July 5. or 6 flowers in each flower-head. Leaves with a wide tube at the end. fruit longer than the head.

maria lis. Wall Lettuce.

Each head containing 4-12 flowers. head cylindrical or spreading the fruit.

Leaves spreading with fine sharp teeth. flower-stalks spreading. head about equal to fruit. *Scarlola.*

Upper leaves very narrow, not touched. flower-stalks very short. head 1 or 2 times as long as the fruit. *salig na.*

LA MIUM. 48.

Flowers yellow. lower lip of corolla gradually 3-lobed. anthers not hairy.

Galeobdolon. Yellow Adonis.

Corolla not yellow, the lower lip with a narrow notch on each side. anthers hairy.

Flowers red-purple. all near the top of the stem. corolla-tube not swollen near its base.

Large tooth even. very short. bracts under the flowers all without stalks.

amplexicaule. Hairy.

Large tooth spreading. the bracts under the lower flowers with a short stalk.

purpureum. Red Dead-nettle.

Corolla large, the tube swollen and curved.

Flowers white, the corolla-tube contracted and then suddenly swollen above its base.

album. White Dead-nettle.

Flowers red or spotted. leaves mostly with white patches. *maculatum.* Spotted Dead-nettle.

LATHYRUS. 53.

Flowers yellow.

Leaves with 2 narrow barbs, as well as the stem as to the base.

pratensis. Meadow Vetchling.

Leaves without red barbs, only the 2 wide, stem-based stipules, and a tendril.

Aphaca. Yellow Vetchling.

Flowers magenta or blue pink, or purple, or white.

(Leaf-stalk flattened like a blade of grass, with no true leaflets at all.

Nissolia. *Grass Pea.*

Leaves with 2 or more leaflets.

(Leaves with 1 pair of leaflets only.

Stem angular but without distinct wings. Root
tuberous. Leaflets whitish. **tuberosus.**

Stem with a thin flat wing down each side.

(Pods hairy. Leaflets 1-2 inches long, with velvet
points. The flowers yellow or crimson. **hirsutus.**

(Pods not hairy. Leaflets 3-6 inches long, four-
pointed, standard pale, greenish on the
under surface. **sykesii.**

Leaves with 2 or more pairs of leaflets.

(Leaf-stalk ending in a short point, which is not
twisted or hooked. **macrorrhizus.**

Leaves with a hooked or twisted petiole.

(Leaflets very narrow, numerous as long as they
are wide. Stipules very small and narrow. **palustris.**

(Leaflets not 4 times as long as they are wide.
Stipules large and broad. **maritimus.**

LEMNA. (11).

(Fronds oblong, with a little stalk at one end, usually with
young ones protruding at the sides. **trisetica.**

(Fronds broad oval or roundish, not stalked.

(Fronds minute, without any rootlets growing down
into the water. **arctica.**

(Fronds with 1 or more rootlets.

(Fronds 1/2 inch or more across, with 1 or more rootlets
to each. **polyrrhiza.**

(Fronds under 1/2 inch, with a single rootlet.

(Fronds almost hemispherical, flat above, thick
and spongy below. **gibba.**

(Fronds not much thickened, usually 2 or 3
cohering together by their edges.

minor. *Lesser Feathered.*

LEON'TODON. (37).

- Leaves smooth, or with simple hairs, often with narrow lobes ; flower-stalks usually branched.
- autumna'lis.** *Autumnal Hawkbit.*
- Leaves roughly hairy, many of the hairs forked ; flower-stalks not branched.
- All the fruits bearing a "pappus" of long, feathered hairs.
- his'pidus.** *Rough Hawkbit.*
- The outermost row of fruits bearing little toothed scales instead of hairs.
- hir'tus.**

**LEPID'IUM.** (44, 45).

- Upper leaves with projecting lobes or "auricles" at their base, clasping the stem.
- Fruit with a thin edge, or "wing," at the top.
- Stamens with yellow anthers ; point on the fruit (remains of the style) very short ; plant little branched.
- campes'tre.** *Mithridate Pepperwort.*
- Anthers purple ; style longer than the notch in the fruit ; plant branched below.
- Smith'ii.**
- Fruit without any wing, wider than it is long, with a rather long style.
- Dra'ba.**



- Upper leaves narrowed at base, not clasping.
- Leaves entire or toothed merely, the lower ones over an inch wide ; fruit downy.
- latifo'lium.** *Dittander.*
- Leaves very narrow, the lower ones cut into narrow segments ; fruit not downy.
- rudera'le.**

**LINA'RIA.** (19).

- Flowers yellow.
- Calyx-segments wide, more or less pointed, without hairs.
- vulga'ris.** *Toadflax.*
- Calyx-segments narrow, bluntish, bearing hairs with swollen, glandular tips.
- supi'na.**
- Flowers (in part at least) bluish or purplish.



- Leaves not twice as long as they are wide.
- Leaves on long stalks, not hairy, with about 5 bluntish lobes.
- Cymbala'ria.** *Ivy-leaved Toadflax.*
- Leaves on very short stalks or none, more or less hairy.
- Leaves with a projecting angle on each side at their base.
- Elat'ine.**
- Leaves rounded at their base, without projecting angles.
- spu'ria.**
- Leaves quite narrow, more than twice as long as they are wide.
- Flowers few, each on a stalk several times as long as the calyx.
- mi'nor.**
- Flowers several, clustered together, on very short stalks.
- re'pens.**



LI'NUM. (30, 32).

- Leaves (at least the lower ones) opposite ; flowers small, white.
- cathar'ticum.** *Purging Flax.*
- Leaves not opposite ; flowers blue (rarely white), conspicuous.
- Sepals wider towards their apex, the inner ones blunt ; (flowers bright-blue).
- peren'ne.**
- Sepals all pointed.
- Flowers an inch or more across ; petals bright-blue, uneven at their margin.
- usitatis'simum.** *Common Flax.*
- Flowers $\frac{1}{2}$ – $\frac{3}{4}$ inch across ; petals pale, entire at their margin.
- angustifo'lium.**



LIS'TERA. (52).

- Lowest petal, or "lip," with only the 2 terminal lobes ; leaves 3 or 4 inches long.
- ova'ta.** *Twayblade.*
- Lip with 2 small additional lobes near its base ; leaves scarcely 1 inch, heart-shaped.
- corda'ta.**



LITHOSPER'MUM. (34).

- { Corolla blue, nearly twice as long as the calyx.
purpu'reo-caeru'leum.
- { Corolla white or yellow, little longer than calyx.
 { Corolla creamy-white; fruits deeply wrinkled and
 nodular.
arven'se. *Corn Gromwell.*
- { Corolla yellowish; fruits quite smooth all over their
 surface.
officina'le. *Common Gromwell.*

**LOBE'LIA.** (13, 22).

- { Aquatic plant; leaves entire, all from the root,
 cylindrical, flattened towards the end.
Dortman'na.
- { Terrestrial plant; stem erect, bearing flat, toothed
 leaves; (Cornwall and Dorset).
u'rens.

**LONICE'RA.** (5, 6).

- { Upper pairs of leaves joined at their base, so as to be
 pierced by the stem.
Caprifo'lium. *Perfoliate Honeysuckle.*
- { Leaves not joined across the stem.
 { Upper leaves without stalks; climbing plant; flowers
 an inch and a half long.
Pericly'menum. *Common Honeysuckle.*
- { Leaves wide, all stalked; erect shrub; flowers very
 short.
Xylos'teum. *Fly Honeysuckle.*

**LO'TUS.** (53).

- { Flowers usually clustered 5 or more together; corolla
 twice as long as the calyx.
cornicula'tus. *Bird's-foot Trefoil.*
- { Flowers rarely more than 2 or 3 together; corolla not
 half as long again as the calyx; (South coast).
angustis'simus.

**LU'ZULA.** (15).

- { Flowers all (or nearly all) separate, most of them on
 longish stalks.
pilo'sa. *Hairy Woodrush.*
- { Flowers clustered 2 or more together.



[Flower-stalks branched and spreading, the flowers clustered 2 or 3 together.]

sylvat'ica. *Great Woodrush.*

[Flowers collected into compact little heads.]

[Leaves hairy along their margins ; some of the heads of flowers stalked.]

campes'tris. *Field Woodrush.*

[Leaves not hairy except on their sheaths ; none of the heads stalked ; alpine plant.]

spica'ta.



LYCH'NIS. (34).

[Petals scarcely notched at their tip.]

[Calyx-segments narrow, usually longer than the petals ; petals without any scale.]

Githa'go. *Corn Cockle.*

[Calyx-segments short, triangular ; petals with a notched scale above the narrow "claw."]

Visca'ria.



[Petals deeply notched or cut.]

[Petals deeply cut into 4 narrow lobes, all of them marked and conspicuous.]

Flos-cucu'li. *Ragged Robin.*

[Petals 2-lobed, or with 2 minute additional lobes at their base.]



[Calyx with narrow, pointed teeth.]

[Flowers red ; fruit roundish, opening by 10 recurved teeth.]

diur'na. *Red Campion.*

[Flowers white ; fruit longer, the teeth but little bent backwards.]

vesperti'na. *White Campion.*

[Calyx short, with short rounded teeth ; flowers crowded.]

alpi'na.



LYSIMA'CHIA. (10, 27).

[Lobes of the corolla narrow, with a minute tooth between each.]

thyrsiflo'ra.

[Corolla-lobes wide, without intermediate teeth.]

[Segments of the calyx with reddish, fringed margins ; plant tall and erect.]

vulga'ris. *Loosestrife.*

[Calyx not fringed ; plant trailing or creeping.]



[Calyx-segments wide; leaves showing reddish dots when held against the light.]

Nummularia. *Moneywort.*

[Calyx-segments very narrow and pointed; leaves not dotted.]

nemorum. *Yellow Pimpernel.*

LYTHRUM. 10. 30.

[Plant tall; leaves $\frac{1}{2}$ inch wide or more; flowers large, showy, arranged several together, in rings round the stem.]

Salicaria. *Purple Loosestrife.*

[Plant small; leaves scarcely $\frac{1}{2}$ inch wide; flowers very small, singly in the angles of the leaves.]

hyssopifolia.

MALVA. (31).

[Leaves at the upper part of the stem deeply cut into narrow lobes.]

moschata. *Musk Mallow.*

[Leaves with wide lobes.]

[Leaves with their lobes all very shallow and nearly equal; corolla little more than twice the length of the calyx.]

rotundifolia. *Dwarf Mallow.*

[Upper leaves with their middle lobe longer than the lateral ones; corolla usually 3 or 4 times as long as the calyx.]

sylvestris. *Common Mallow.*

MATRICARIA. 40.

[Bracts round the flower-heads brownish at their margins; plant only faintly aromatic.]

inodora. *Scentless Mayweed.*

[Bracts of the flower-heads pale at their margins; plant strongly aromatic.]

Chamomilla. *Wild Chamomile.*

MATTHIOLA. (44).

[Leaves entire on their margins, neither toothed nor lobed; (Isle of Wight clins).]

incana. *Queen Stock.*

[Lower leaves lobed or divided, or at least coarsely toothed.]

sinuata. *Sea Stock.*



MEDICA GO. (54).

Fruit "pod" without spines

Leaves more than twice as long as wide.

Flowers purple, rarely yellow; pods much spirally twisted.

sativa. Lucerne.

Flowers yellow, rarely purple; pods more or less curved, rarely forming a circle.

foetida ta.

Leaves not much longer than they are wide; pods spirally twisted, turning black.

lupulina. Black Medick.

Pods with numerous curved spines.

Leaves usually with a dark patch; pods with a broad, grooved edge on their outer margin.

maculata. Spotted Medick.

Leaves not spotted; pods with a thin edge.

Stipules with long, slender teeth; pods in a flattish spiral, strongly net-veined.

denticulata.

Stipules entire or slightly toothed; pods scarcely veined, rolled up into a ball.

minima.

MELAMPYRUM. (21)

Flowers entirely yellow.

Corolla more than twice as long as the calyx; its lower lip straight; upper bracts often toothed.

pratense. Common Cow-wheat.

Corolla scarcely twice the length of the calyx; its lower lip bent down; bracts under the flowers always entire.

sylvaticum.

Flowers tipped or variegated with pink or purple.

Bracts under flowers heart-shaped at base, bent back with numerous short teeth.

cristatum.

Bracts not heart-shaped; erect, with few long, narrow teeth.

arvense.

MELILOTUS. (54).

Flowers white, the upper petal "standard" longer than the rest.

alba.

Flowers yellow.



{ Petals nearly equal in length ; fruit, or "pod," irregularly wrinkled, shortly hairy.

officina'lis.

{ The innermost petal, or "keel," shorter than the rest ; pod transversely wrinkled, not hairy.

arven'sis.



MEN'THA. (47).

{ Stem ending in one or more clusters of flowers.

{ Leaves not (or very indistinctly) stalked.

{ Leaves green on both surfaces, almost or quite without hairs. **vir'idis.** *Spear Mint.*

{ Leaves whitish and hairy on their lower surface.

{ Leaves short and wide, obtuse, much wrinkled on their upper surface. **rotundifo'lia.**

{ Leaves pointed, usually narrower, not wrinkled on their upper surface.

sylves'tris. *Horse Mint.*

{ Leaves distinctly stalked.

{ Flowers in an elongated spike or cluster at the end of the stem.

piperi'ta. *Peppermint.*

{ Flowers collected into a roundish mass at the end of the stem.

aquat'ica. *Water Mint.*

{ Stem terminating in a pair or tuft of leaves, either not enclosing flowers, or, if so, projecting beyond them.

{ Leaves an inch or more ; calyx-teeth nearly equal.

{ Calyx oblong, little dilated, with narrow teeth.

sati'va. *Whorled Mint.*

{ Calyx wide, its teeth as wide as they are long.

arven'sis. *Corn Mint.*

{ Leaves short ; the 2 lower calyx-teeth longer and narrower.

Pule'gium. *Pennyroyal.*



MERCURIA'LIS. (14).

{ Leaves rough and harsh to the touch ; plant dull green ; stem unbranched.

peren'nis. *Dog's Mercury.*

{ Leaves smooth ; plant rather bright green ; stem usually branched.

an'nua. *Annual Mercury.*



MYOSO'TIS. (33).

Hairs on the calyx pressed close against the surface, not spreading.

palus'tris. *Forget-me-not.*

Hairs on the calyx spreading, often hooked.

Lower flower-stalks as long as, or longer than, the calyx, $\frac{1}{4}$ – $\frac{1}{2}$ inch long when in fruit.

Corolla bright-blue, over $\frac{1}{4}$ inch in diameter, opening out flat. **sylvat'ica.**

Corolla pale-blue, about $\frac{1}{8}$ inch across, usually more or less concave. **arven'sis.**

Calyx exceeding its very short stalk.

Corolla bright blue ; calyx remaining open after the corolla falls. **colli'na.**

Corolla first yellow, then blue ; calyx-teeth closing together after the corolla falls. **versic'olor.**

**MYRIOPHYLLUM.** (9).

Flowers projecting above the water, all (or the upper ones) in the angles of entire bracts, shorter than the flowers. **spica'tum.**

Flowers usually immersed, in the angles of deeply divided leaves or bracts. **verticilla'tum.** *Water Milfoil.*

**NA'IAS.** (13).

Leaves with large spinous teeth, their sheaths rounded, nearly entire ; (Norfolk). **mar'ina.**

Leaves with minute teeth, their sheaths toothed and with distinct projections ; (Lancashire). **gramin'ea.**

**NARCIS'SUS.** (16).

Flowers yellow, their segments not or scarcely longer than the long "crown" in the centre. **Pseudo-narcis'sus.** *Daffodil.*

Flowers nearly white, their segments spreading, much longer than the short, yellow "crown." **biflorus.** *Primrose* *Pearless.*



NASTUR'TIUM. (42, 43, 45).

[Flowers white; leaves with rather distant, roundish leaflets; fruit $\frac{3}{8}$ – $\frac{3}{4}$ inch long.

officina'le. *Water Cress.*

[Flowers yellow.

[Fruit not twice as long as it is wide; upper leaves toothed, rarely deeply cut. **amphib'ium.**

[Fruit at least twice as long as wide.

[Petals much longer than the sepals; fruit very slender. **sylves'tre.**

[Petals not (or scarcely) longer than the sepals; fruit rather short and thick. **palus'tre.**

**NEP'ETA.** (47).

[Leaves roundish; flowers blue-purple, middle lobe of lower lip of corolla almost entire.

Glecho'ma. *Ground-Ivy.*

[Leaves longer than wide; flowers pale, middle lobe of corolla concave and coarsely toothed.

Cata'ria. *Catmint.*

**OENAN'THE.** (60).

[Upper leaves with few, long, narrow segments.

[Stem and swollen leaf-stalks very hollow; upper leaves shorter than their stalks.

fistulo'sa. *Water Dropwort.*

[Stem and leaf-stalks nearly solid; leaves longer than their stalks. **pimpinelloi'des.**

[Most of the leaves with numerous segments.

[Leaf-segments wide, wedge-shaped, often $\frac{1}{2}$ inch long; flowers in umbels at the end of the stem.

croca'ta. *Water Hemlock.*

[Leaf-segments small, usually narrow; umbels mostly at the side of the stem, opposite to a leaf.

Phellan'drium. *Horsebane.*

**ONO'NIS.** (3, 54).

[Flower-stalks much shorter than the calyx; pods with only 1–4 seeds. **arven'sis.** *Rest-harrow.*

[Flower-stalks as long as the calyx, jointed at the top; pods with 10 or more seeds; (Devon.)

reclina'ta.



OPH' RYS. (52).

[Lowest petal, or "lip," much longer than it is wide, strongly notched at its tip.

muscif'era. *Fly Orchis.*

[Lip nearly as wide as long, scarcely notched.

[Sepals white or pink within; lip with a narrow, recurved projection at its tip.

apif'era. *Bee Orchis.*

[Sepals yellow-green within; lip without a narrow lobe at its tip.

aranif'era. *Spider Orchis.*

**OR'CHIS.** (51).

[Flowers with the 3 outer segments, or sepals, all converging in a sort of hood over the flower.

[Lowest petal, or "lip," over an inch long, and scarcely $\frac{1}{8}$ inch wide, usually twisted.

hirci'na. *Lizard Orchis.*

[Lip shorter and wider, not twisted.

[Sepals veined with green; spur usually horizontal or pointing upwards; lip with broad lobes.

Mo'rio. *Green-winged Orchis.*

[Sepals not green-veined; spur pointing downwards.

[Lip over $\frac{1}{2}$ inch long; bracts under the flowers minute.

milita'ris. *Military Orchis.*

[Lip about $\frac{1}{4}$ inch long; bract half as long as ovary, or more.

ustula'ta. *Dwarf Orchis.*

[Sepals, at least the 2 lateral ones, spreading.

[Spur very fine and slender; lip 3-lobed, with 2 prominences on the surface near its base.

pyramida'lis. *Pyramidal Orchis.*

[Spur thicker; lip without prominences at base.

[Bracts under the flowers thin, often coloured, 1-nerved; spur thick and blunt.

mas'cula. *Early purple Orchis.*

[Bracts firm and leaf-like, 3-nerved.

[Stem solid; bracts under the flowers hardly longer than the ovary; lip strongly 3-lobed.

macula'ta. *Spotted Orchis.*

[Stem hollow; bracts mostly much longer than the ovary; lip often only faintly 3-lobed.

latifo'lia. *Marsh Orchis.*



ORNITHOG'ALUM. (50).

[Stamens wide, white, almost petal-like, with a projection on each side of the anther; flowers more or less drooping. **nu'tans.**]

[Stamens narrowed at the top, without projections.

[Flower-segments white on their inner surface.

umbella'tum. *Star-of-Bethlehem.*

[Segments of the flower narrow, partly green on their inner surface. **pyrena'icum.**]

**OROBAN'CHE.** (20).

[Each flower with 3 bracts below it.

[Calyx with only 4 teeth; stem often branched. **ramo'sa.**

[Calyx with an additional tooth at the back, making 5 in all; stem not branched. **caeru'lea.**

[Only one bract below each flower.

[Lower part, or "tube" of the corolla with a contraction above its base; growing on various plants. **mi'nor.** *Lesser Broomrape.*

[Tube of the corolla wide, not contracted.

[Plant 1-2 feet high; stigma yellow.

[Upper lip of the corolla scarcely notched; stamens not hairy at base; on *Broom* and *Furze.* **ma'jor.** *Great Broomrape.*

[Upper lip deeply notched; stamens hairy at their base; growing on **Centaurea.**

ela'tior. *Tall Broomrape.*

[Plant 6-12 inches; stigma pink or purple.

[Each of the 2 sepals undivided, or with 2 very unequal segments; on *Thyme.* **ru'bra.**

[Each sepal with 2 nearly equal segments; on *Galium.* **caryophylla'cea.**]

**OX'ALIS.** (31).

[Flowers white, 1 on each stalk; leaves and flower-stalks all from the root of the plant. **Acetosel'la.** *Wood-sorrel.*

[Flowers yellow, 2 on each stalk; stem leafy, the flower-stalks from the angles of the leaves. **cornicula'ta.**]



PAPA'VER. (53).

[Leaves without hairs, not deeply cut ; flowers white, tinged with blue-purple.

somnif'erum. *Opium Poppy.*

[Flowers red ; leaves deeply cut or lobed, more or less hairy.

[Ovary and fruit roundish or wide-oval, more than half as wide as it is long.

[Flower-stalk with stiff, usually spreading hairs ; ovary and fruit not bristly.

Rhoe'as. *Common Poppy.*

[Hairs on the flower-stalk applied close against it ; ovary and fruit bristly.

hyb'ridum.

[Ovary and fruit narrow.

[Stamens with their stalk, or "filament," thread-like ; ovary and fruit smooth.

du'bium.

[Filaments widened near the top ; ovary and fruit with a few erect bristles.

Argemo'ne.

**PEDICULA'RIS.** (20).

[Calyx 4- or 5-lobed, not hairy below ; corolla pale pink throughout ; stem usually branched.

sylvat'ica. *Lousewort.*

[Calyx hairy in its lower part, the lobes arranged more or less in 2 lips ; corolla pink, with the top of the upper lip brown-purple ; stem stout.

palus'tris. *Red-rattle.*

**PEUCED'ANUM.** (57, 60, 61).

[Leaves with large, wide, toothed leaflets ; no bracts under the main umbel of flowering branches ; (flowers white).

Ostru'thium. *Masterwort.*

[Segments of the leaves very narrow ; bracts present under all the umbels.

[Flowers yellowish ; leaves divided into numerous long, narrow leaflets, mostly arranged in threes.

officina'le. *Sulphur-weed.*

[Flowers white ; leaf-segments less completely divided, rarely in threes.

palus'tre. *Milk Parsley.*



PHYTEU'MA. (18).

[Flower-heads roundish in shape, the flowers dark blue-purple.]

orbicula're. *Round-headed Rampion.*

[Flower-heads oval, growing out into a long spike, the flowers pale.

spica'tum. *Spiked Rampion.*



PIMPINEL'LA. (59).

Leaflets of the lowest leaves roundish, or else deeply divided; leaves on the stem mostly with narrow segments. **Saxifraga.** *Burnet Saxifrage.*

Saxif'raga. *Burnet Saxifrage.*

Leaflets of most of the leaves more or less oval, with pointed teeth or lobes, rarely deeply cut; plant and leaves large. **mag'na.**

mag'na.



PINGUIC'ULA. (19).

[Flowers dark-violet, the spur nearly straight; flower-stalk not hairy near its base.]

vulga'ris. *Butterwort.*

[Flowers pale-lilac and yellow, the spur curved; flower-stalk hairy throughout.

lusitan'ica.



PLANTA'GO. (23).

[Stalk bearing the head, or spike, of flowers strongly furrowed; leaves tapering, ribbed.]

lanceola'ta. *Ribwort Plantain.*

Stalk round, not furrowed.

Leaves wide, strongly ribbed.

[Spike of flowers usually longer than its stalk ;
anthers pale-purple. **ma'jor.** *Great Plantain.*]

ma'jor. *Great Plantain.*

[Spike much shorter than the stalk below it ; anthers pale-yellow ; leaves hoary with short down.

me'dia. *Hoary Plantain.*

Leaves narrow, or with narrow segments.

[Leaves entire (or with a few teeth), not hairy;
bracts under the flowers with short points.]

marit'ima. *Sea Plantain.*

(Leaves (usually) with narrow segments, nearly
always hairy; bracts with fine points.

Coro'nopus. *Buck's-horn Plantain.*



POLYGONA'TUM. (10, 49).

Leaves in whorls of 3, 4 or 5 at the same level on the stem.

verticilla'tum.

Leaves not in whorls.

Stem round; flowers usually 2-5 together; stamens with the filaments hairy.

multiflo'rum. *Solomon-seal.*

Stem 4-angled in its upper part; flowers 1 (or 2) together; filament not hairy.

officina'le.

**POLYGO'NUM.** (12, 14, 24).

Leaves with projecting angles at their base.

Fruit scarcely winged; stem with fine, raised, rough lines on it under the lens.

Convol'vulus. *Black Bindweed.*

Fruit with 3 broad wings on its angles; stem without raised lines.

dumeto'rum.



Leaves rounded or tapering at their base.

Flowers, either singly, or in little clusters of two or three together, close down in the angles of the leaves along the stem.



Leaves with flat margins; plant growing everywhere; nuts (inside the fruit) rough.

avicula're. *Knotgrass.*

Leaf-margin curved back; maritime plant; nuts smooth and polished.

marit'imum.

Flowers in elongated spikes or clusters.

Leaves, especially the lower, with their margins running down in wings on the leaf-stalk.

Bistor'ta. *Snakeroot.*

Leaves without winged stalks.

Flower-spike solitary and slender, with little red bulbs instead of the lower flowers.

vivip'arum.

Flower-spikes without little bulbs.

Leaves not tapering at their base, often floating; flower-spike usually solitary and dense.

amphib'ium.

Leaves narrowed and tapering at their base; spikes usually 2 or more.



Spikes dense, seldom over 1 inch, not leafy.

Flower-stalks and buds dotted with minute raised glands ; leaf stipules not (or scarcely) fringed.

lapithifo'lium.

Stalks and buds smooth, not glandular ; stipules fringed with long hairs.

Persica'ria. *Persicaria.*

Spikes slender, interrupted and leafy below.

Buds rough with minute glands ; leaves biting the tongue when chewed ; spikes usually drooping at the tip.

Hydropi'per. *Water Pepper.*

Buds smooth ; leaves not biting the tongue ; spikes erect, rarely 3 inches long.

mi'nus.

POP'ULUS. (7).

Shoots, and the under side of the leaves, covered with a whitish felt.

al'ba. *White Poplar, Abele.*

Leaves not white felted beneath.

Leaves more or less triangular and long-pointed, with numerous small teeth.

ni'gra. *Black Poplar.*

Leaves roundish, very shortly pointed, with few rather large teeth or lobes.

trem'ula. *Aspen.*

POTAMOGE'TON. (12, 14).

Leaves all long and narrow, strap shaped or thread-like, $\frac{1}{4}$ inch wide or less, not toothed.

Leaves thread-like, with a dilated, sheathing base, which (usually) ends in 2 little points.

pectina'tus.

Leaves without any dilated, sheathing base.

Stem much flattened ; leaves narrow-pointed, with 3 strong nerves and several intermediate ones.

acutifo'lius.

Stem scarcely flattened ; leaves 1- to 5-nerved.

Leaves rarely $\frac{1}{12}$ inch wide, scarcely narrowed towards their base ; fruits $\frac{1}{12}$ inch long.

pusi'lus.

Leaves $\frac{1}{8}$ inch wide or more, narrowed towards their base, bluntish ; fruits $\frac{1}{8}$ inch long.

obtusifo'lius.

Leaves (or some) over $\frac{1}{4}$ inch wide, or toothed.



Upper leaves on longish stalks, either floating, or projecting out of the water.

The lower (submerged) leaves stalked, or else reduced to mere leaf-stalks.

na'tans.

Lower leaves almost or quite without stalks.

Lower leaves narrow, with not more than 1 or 3 longitudinal nerves.

heterophyl'lus.

Lower leaves with 5 or more parallel nerves; (var. *rufescens* of)

lu'cens.

All the leaves submerged, with very short stalks or none.

Leaves all in opposite pairs on the stem, rather numerous and crowded.

den'sus.

Leaves not opposite (except a pair here and there where the stem divides).

Leaves 3- to 5-nerved, finely toothed, usually much crisped at their margins.

cris'pus.

Leaves 7- or more nerved, not or scarcely crisped, not toothed (except *lucens*).

Leaves narrowed at their base, or stalked, usually toothed near their apex.

lu'cens.

Leaves more or less clasping the stem with their base, not toothed.

Leaves rarely twice as long as they are wide, strongly clasping, their apex not hooded.

perfolia'tus.

Leaves more than twice as long as wide, slightly clasping, apex more or less concave and hooded.

praelon'gus.

POTENTIL'LA. (29, 55, 56).

Flowers white.

All the leaves with only 3 hairy leaflets; plant common on banks, etc.

Fragarias'trum. Barren Strawberry.

Lowest leaves with 5 or 7 leaflets; on rocks (Montgomeryshire and Radnorshire).

rupes'tris.

Flowers yellow or purple.



[Leaves with entire leaflets ; plant branched, more or less shrubby.

frutico'sa.



[Leaflets toothed or lobed.

[Leaves white and silky on their under surface.

[Leaves with about 5 leaflets, which all diverge from the same point.

argen'tea.



[Leaves with numerous leaflets arranged in pairs down the stalk.

anseri'na. *Silver-weed.*

[Leaves not white and silky beneath.

[Flowers purple ; lower leaves with 5-7 leaflets, not all from one point ; fruit like a hard strawberry.

palus'tris. *Bog Strawberry.*



[Flowers yellow ; leaflets all from one point.

[Flowers (nearly all) with 4 petals and sepals ; upper leaves mostly without stalks.

Tormentil'la. *Tormentil.*



[Flowers (nearly all) with 5 petals and sepals.

[Stem creeping, and rooting at intervals ; leaves all long-stalked, from the creeping stem.

rep'tans. *Cinquefoil.*



[Stem rarely creeping, never rooting ; upper leaves on short stalks or none.

ver'na.

PRI'MULA. (17, 28).

[Flowers small, pale-lilac ; calyx not angular ; leaves with a white meal on their under surface.

farino'sa. *Bird's-eye Primrose.*



[Flowers pale-yellow ; calyx angular ; leaves wrinkled, without white meal.

[Flower-stalks one-flowered ; leaves gradually narrowed towards their base.

vulga'ris. *Primrose.*



[Flower-stalks branched at the top so as to bear several flowers ; leaves suddenly narrowed about their middle.



[Corolla small, remaining concave ; teeth of the calyx rather short and wide.

ve'ris. *Cowslip.*



[Corolla usually larger, opening out flat ; teeth of the calyx long and narrow.

ela'tior. *Oxlip.*



PRU'NUS. (55).

[Twigs spinous; flowers small, usually one or two together; sepals not bent back.

spino'sa. *Blackthorn, Sloe.*

[Branches not spinous; sepals (usually) reflexed.

[Sepals fringed; flowers many in a cluster; leaves with fine, narrow, saw-like teeth.

Pa'dus. *Bird Cherry.*

[Sepals not fringed; flowers about 3-5 from one point; leaves with rounded, bluntish teeth.

Cer'asus. *Wild Cherry.*

**PY'ROLA.** (31).

[Leaves pointed; flowers all turned towards one side of the stem.

secun'da.

[Leaves blunt; flowers not turned to one side.

[Style very short, without any projecting ring below the stigma.

mi'nor. *Common Wintergreen.*

[Style longer than corolla, with a prominent ring.

[Style very long, bent down and then curved up at the end.

rotundifo'lia.

[Style straight, or nearly so.

me'dia.

**PY'RUS.** (7, 55).

[Leaves with several pairs of oval, toothed leaflets, quite separate and distinct.

Aucupa'ria. *Rowan, Mountain Ash.*

[Leaves not divided into separate leaflets.

[Leaves covered with dense white felt on their under surface, with numerous toothed lobes.

A'ria. *Beam-tree.*

[Leaves not white-felted beneath.

[Leaves with pointed, toothed lobes; fruit small, brownish.

tormina'lis. *Wild Service-tree.*

[Leaves toothed merely; fruit an apple or pear.

[Flowers pink; anthers yellow; fruit an apple; leaf-stalk scarcely half as long as the leaf.

Ma'lus. *Crab-apple.*

[Flowers white; anthers purple; fruit a pear; leaf-stalk often nearly as long as the leaf.

commu'nis. *Pear-tree.*



RANUN'ULUS. (11, 12, 20, 30, 31, 32).

Flowers white ; (aquatic or mud plants).

Plant with finely-cut submerged leaves, with or without broader floating leaves.

aquat'ilis. *Water Crowfoot*

Leaves all roundish or angular, none of them with finely-cut segments.

hedera'ceus.

Flowers yellow.

Petals 8-12; sepals (usually) 3; leaves angular or heart-shaped. **Fica'ria.** *Lesser Celandine.*

Petals 5 (or fewer); sepals (usually) 5.

Leaves toothed or entire, not deeply cut.

Flowers 1-2 inches across, the flower-stalks not furrowed.

Lin'gua. *Great Spearwort.*

Flowers rarely $\frac{3}{4}$ inch, stalks furrowed.

Flowers $\frac{1}{2}$ to $\frac{3}{4}$ inch across, the petals much longer than the sepals.

Flam'mula. *Lesser Spearwort.*

Flowers about $\frac{1}{4}$ inch across, petals very small.

ophioglossifo'lius.

Leaves (or some of them) deeply cut or lobed.

Fruits covered with long spines, more or less visible on the ovaries even in flower.

arven'sis.

Fruits and ovaries not spiny.

Flowers about $\frac{1}{4}$ inch, petals very small.

Leaves and sepals without hairs; fruits smooth, in an oblong head. **scelera'tus.**

Leaves and sepals hairy; fruits with little tubercles, in a rounded head.

parviflo'rus.

Flowers about $\frac{1}{2}$ inch or more across.

Sepals bent back against the flower-stalk.

Stem swollen below the ground; flowers
bright-yellow; fruits smooth.

bulbo'sus. *Buttercup.*

[Stem not bulbous; flowers pale-yellow; fruits with little tubercles.

hirsu'tus.

Sepals spreading, not bent back.



[Leaves not, or scarcely, hairy ; petals without a scale at their base, some of them often dwarfed.

auri'comus. *Goldilocks.*

[Leaves hairy ; petals with a scale at their base.

[Flower-stalks not furrowed ; leaves with deeply cut, more or less equal, segments.

a'cris. *Buttercup.*

[Flower-stalks furrowed ; the middle segment of the lower leaves usually longer, and more or less stalked.

re'pens. *Buttercup.*



RESE'DA. (20, 31).

[Leaves entire and undivided, though often waved ; sepals 4 only.

lu'teola. *Weld.*

[Leaves deeply divided ; sepals 5 or 6.

[One or two of the lower petals narrow and undivided ; leaves with few segments.

lu'tea. *Cut-leaved Mignonette.*

[All the petals 3-cleft ; leaves with numerous (about 9-21) segments.

al'ba. *White Mignonette.*



RHAM'NUS. (4, 9).

[Leaves regularly toothed, with few, much-curved lateral nerves, mostly near the base.

cathar'ticus. *Buckthorn.*

[Leaves entire, with numerous lateral nerves.

Fran'gula. *Black Alder.*



RI'BES. (4, 6, 8).

[Branches bearing prickly spines ; flowers only 1 or 2 together.

Grossula'ria. *Gooseberry.*

[No spines ; flowers in clusters of 4 or more.

[Calyx and back of leaves sprinkled with resinous drops, fragrant when rubbed ; fruit black.

ni'grum. *Black Currant.*

[Leaves not resinous or scented ; fruit red.

[Flower-stalks with very short bracts, leaves not very deeply cut, downy beneath ; fruit acid.

ru'brum. *Red Currant.*

[Bracts longer than the flower-stalks ; leaves more deeply cut, scarcely downy beneath ; fruit insipid.

alpi'num.



RO'SA.

[Prickles on the branches slender, straight, very unequal in size; plant rarely over 1 foot.

pimpinellifo'lia. *Burnet Rose.*

[Prickles nearly equal in size, often with a wide, more or less dilated base; plant taller.

[Styles united in a prominent, projecting column in the centre of the white scentless flower. **arven'sis.**

[Styles scarcely projecting, in a rounded mass, not united in a column.

[Leaves scented, thickly dotted with projecting "glands" beneath and on margins.

rubigino'sa. *Sweetbriar.*

[Leaves not scented, with few glands or none.

[Prickles more or less curved; calyx-tube, and oval or roundish, fruit, almost without bristles. **cani'na.** *Dog Rose.*

[Prickles nearly straight; leaflets very downy; lower part of calyx, and roundish fruit, nearly always bristly. **villo'sa.**

**RU'BUS.** (3, 55, 56).

[Leaves wide, with toothed lobes, not divided into separate leaflets.

Chamaemo'rus. *Cloudberry.*

[Leaves divided into 3 or more leaflets.

[Stem weak, short, not woody, with few prickles or none; stipules narrow-oval, scarcely united to the leaf-stalk. **saxat'ilis.**

[Stem strong, woody, and prickly; stipules slender, united at their side to the stalk.

[Lower leaves with 5 or 7 leaflets, the lower pairs not close, white beneath. **Idae'us.** *Raspberry.*

[Leaves with only 3 leaflets, or, if 5, the lower pairs arising close together, almost from the same point.

[Branches glaucous; prickles rather weak; fruit with a bluish bloom, its sepals erect. **cae'sius.** *Dewberry.*

[Prickles usually stout; fruit without bloom, with the sepals either erect or spreading.

frutico'sus. *Blackberry.*



RU'MEX. (15).

The segments of the flower are here called "sepals" for brevity, and the descriptions all refer to their condition in fruit, when the 3 inner ones are enlarged, and form a 3-sided cone.

[Lower leaves with projecting angles at their base.

[Angles of the leaves parallel with the leaf-stalk; the 3 outer sepals bent back in fruit.

Aceto'sa. *Sorrel.*

[Angles of the leaves diverging; the 3 outer sepals remaining erect. **Acetosel'la.** *Sheep's Sorrel.*

[Lower leaves without projecting angles.

[The 3 inner sepals distinctly toothed.

[Lower leaves narrowed at their base; inner sepals bright-yellow, with very long teeth.

marit'imus. *Golden Dock.*

[Lower leaves rounded or heart-shaped at base.

[Fruit-stalks slender, mostly much longer than the fruit; lower leaves often 3 inches wide.

obtusifo'lius. *Broad Dock.*

[Fruit-stalks stout, shorter than the fruit; lower leaves usually narrowed above their base.

pul'cher. *Fiddle Dock.*

[The 3 inner sepals not (or indistinctly) toothed.

[No large, swollen tubercle on any of the 3 inner sepals in fruit. **aquat'icus.**

[A tubercle on one or all of the inner sepals.

[Inner sepals wide and heart shaped at their base; leaves usually much crisped.

cris'pus. *Curled Dock.*

[Inner sepals not heart-shaped at base.

[Lower leaves over a foot long, narrowed at their base; tall water plant; (inner sepals all tubercled). **Hydrolap'athum.**

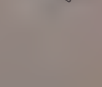
[Leaves rarely 10 inches; land plants.

[Each of the 3 inner sepals with a large, oblong, swollen tubercle.

conglomera'tus.

[Only one tubercle enlarged and swollen, the other 2 small or absent.

sanguin'eus.



SAGI'NA. (35).

[Sepals, stamens, and styles 4; petals 4, much smaller than the sepals, or absent altogether.

procum'bens. *Pearlwort.*



[Sepals and styles 5; petals 5, longer.

[Petals much longer than the calyx; upper leaves with clusters of little leaves in their angles.

nodo'sa. *Knotted Spurry.*



[Petals about as long as the calyx; leaves with minute, gland-tipped hairs. (form *subulata* of) **Linnae'i.**

**SA'LIX.** (6, 7, 9).

[Dwarf alpine plant (not below 2000 feet); leaves roundish, very obtuse, rarely over $\frac{1}{2}$ inch long.

herba'cea. *Dwarf Willow.*



[Lowland plants; leaves usually more or less pointed.

[Leaves fragrant, shining as if varnished, sticky when young; stamens 4-12 under each scale of the catkin.

pentan'dra. *Bay Willow.*



[Leaves not fragrant nor sticky; stamens 1-3.

[Leaves (and catkins) many of them opposite; stamens more or less joined into one; ovary almost stalkless.

purpu'rea.



[Leaves not opposite; stamens 2 or 3; ovary on a stalk (except *alba* and *viminalis*).

[Stamens 3; leaves tough, almost leathery, quite without hairs, rather suddenly pointed.

amygdali'na. *French Willow.*



[Stamens 2; leaves various.

[Leaves silky, at least underneath, with straight hairs lying parallel.

[Stem lying along the ground, with rising branches; leaves $\frac{1}{2}$ -1 $\frac{1}{2}$ inches; ovary stalked.

re'pens.



[Stem erect; leaves much longer.

[Leaves more or less toothed; style very short.

al'ba. *White Willow.*

[Leaves not (or scarcely) toothed, very long; style slender.

vimina'lis. *Osier.*



[Leaves (unless quite young) not silky, either smooth, or with crisped, cottony down.

[Leaves 4 or 5 times as long as wide, with tapering points,
regularly toothed, not hairy.
frag'ilis. *Crack Willow.*]

[Leaves wide, with shorter points.

[Leaves not cottony when mature, deep- or shining-
green on their upper surface; style long and
distinct.
phylicifo'lia.]

[Leaves with crisped, cottony down beneath, dull-green
above; style short or none.

[Bush (2-4 feet); leaves usually under 2 inches,
much wrinkled on upper surface.
auri'ta.]

[Large bush or tree; leaves 2-4 inches, less curled
and wrinkled.
Capre'a. *Sallow.*]

SAL'VIA. (48).

[Corolla bright-blue, conspicuous, nearly 3 times as long
as the calyx.
praten'sis. *Meadow Sage.*]

[Corolla dull, purplish-blue, barely as long again as the
calyx.
Verbena'ca. *English Clary.*]

SAMBU'CUS. (3, 27).

[Tree or shrub; leaves usually with 5 (or 7) leaflets, all
at some distance from the base of the leaf-stalk.
ni'gra. *Elder.*]

[Herb; leaves usually with 9 or more leaflets; two of
them (like stipules) quite at the base of the stalk.
Eb'ulus. *Danewort.*]

SAXIF'RAGA. (30, 31).

[Flowers yellow or purple; leaves (nearly) entire.

[Leaves very small, opposite, in 4 ranks; flowers
purple.
oppositifo'lia. *Purple Saxifrage.*]

[Leaves not opposite; flowers yellow.

[Stem several-flowered; calyx-lobes not bent back
on the stalk.
aizoi'des.]

[Stem (usually) one-flowered; calyx-lobes bent
backward.
Hir'culis.]

[Flowers white or pink; leaves lobed or toothed.



- Leaves all very narrow, or with narrow lobes.
- Flowers about $\frac{1}{8}$ inch across, or less ; small viscid and sticky plant, of wall-tops and sandy places. **tridactyli'tes.**
- Flowers $\frac{1}{2}$ inch across ; on mountains and rocks.
- Leaves (or their lobes), and calyx-segments, pointed ; plant forming lax cushions. **hypnoi'des.**
- Leaves and calyx-segments blunt ; plant in short, dense cushions. **caespito'sa.**
- Lower leaves wide, or with wide lobes.
- Calyx-segments bent backwards ; flowering stem almost without leaves. **stella'ris.**
- Calyx-segments erect or spreading.
- Lower leaves heart-shaped where they join the leaf-stalk. **granula'ta.** *Meadow Saxifrage.*
- Lower leaves not heart-shaped, more or less narrowed at their base ; alpine plant. **niva'lis.**



SCABIO'SA. (18).

- Corolla 5-lobed ; the "involucel" (outside the calyx) a distinct little cup, with a spreading border. **columba'ria.** *Small Scabious.*
- Corolla 4-lobed ; involucel toothed or obscure.
- Outer florets scarcely enlarged ; calyx with 4 dark, fine teeth. **Succi'sa.** *Devil's-bit.*
- Outer florets usually much enlarged ; calyx with about 8 or 10 teeth. **arven'sis.** *Field Scabious.*



SCIL'LA. (50).

- Flowers long, narrowly bell-shaped, their segments spreading at the tip only. **nu'tans.** *Bluebell.*
- Flowers short, with widely spreading segments.
- Flowers appearing in spring, with a bract under each little flower-stalk. **ver'na.** *Vernal Squill.*
- Flowers appearing in autumn, without bracts under the flower-stalks. **autumna'lis.** *Autumnal Squill.*



SCLERAN'THUS. (22).

[Sepals pointed, scarcely bordered with white, spreading after flowering.]

an'nuus. *Knawel.*

[Sepals blunt, widely bordered, closing together after flowering.]

peren'nis.

**SCROPHULA'RIA.** (21).

[Flowers yellow, inflated; calyx deeply divided, the segments pointed.]

verna'lis.

[Flowers dull-purple; calyx-lobes short and blunt.]

[Leaves and stem not hairy.]

[Stem sharply angled, but not winged; leaves more or less pointed.]

nodo'sa. *Figwort.*

[Stem with distinct thin wings running down the angles; leaves bluntish.]

aquat'ica.

[Stem bluntly angled, hairy; leaves downy on both sides; (rare Cornish plant).]

Scorodo'nia.

**SCUTELLA'RIA.** (47).

[Flowers purple-blue; leaves all more or less heart-shaped at base.]

galericula'ta. *Common Scullcap.*

[Flowers pinkish; upper leaves rounded at base, not heart-shaped.]

mi'nor. *Lesser Scullcap.*

**SE'DUM.** (29).

[Leaves flattish, $\frac{1}{2}$ inch wide or more.]

[Flowers yellow (sometimes tinged with purple); sepals 4; root-stock rose-scented when broken across.]

Rhodi'ola. *Rose-root.*

[Flowers purple; sepals 5; root-stock not scented.]

Tele'phium. *Orpine.*

[Leaves solid, nearly as thick as they are wide.]

[Small plant, with roundish or shortly oval leaves, and bright-yellow flowers.]

a'cre. *Biting Stonecrop.*

[Either leaves elongated, or flowers not yellow.]



Leaves short and wide ; (flowers white or pinkish).

Leaves with a projection, or "spur," below the point where they are attached to the stem.

an'glicum.

Leaves without any spur, usually covered with little gland-tipped hairs.

dasyphyl'lum.

Leaves very much longer than they are wide.

Flowers white or pink.

Plant without hairs.

al'bum.

Plant with numerous short, gland-tipped hairs, especially in the upper part.

villo'sum.

Flowers yellow.

Leaves pointed, more or less flattened on the upper and under surface ; stem 6 inches or more.

rupes'tre.

Leaves blunt, not or scarcely flattened ; stem rarely over 3 inches.

sexangula're.

SENEBIE'RA. (45).

Fruit deeply wrinkled, pointed at its apex, longer than its short, thick stalk.

Coro'nopus. *Wart-cress.*

Fruit slightly wrinkled, notched at its apex, shorter than its stalk.

did'yma.

SENE'CIO. (39, 40).

Flower-heads with the strap-shaped outer florets either absent, or very small and rolled back.

Flower-heads without any outer florets ; plant scentless, or nearly so.

vulga'ris. *Groundsel.*

Outer florets present ; plant with a bad smell.

Flower-heads narrow, surrounded by about 12 or 14 bracts (and a few minute outer ones) ; fruits hairy.

sylvat'icus.

Heads wider, with about 20 bracts, and 2 or 3 outer ones nearly half as long as the inner ; fruits not hairy.

visco'sus.

Flower-heads with long, spreading outer florets, forming a conspicuous "ray."



Leaves, or some of them, deeply cut.

Fruits all without hairs ; flower heads usually over an inch across ; terminal lobe of the leaves often very large. **aquat'icus.**

Fruits (at least of the inner florets) hairy.

Fruits of the outer or "ray florets" not hairy ; terminal lobe of leaves often rather large.

Jacobae'a. *Ragwort.*

All the fruits hairy.

Leaves without hairs ; outer bracts of flower-heads very short ; on old walls. **squal'idus.**

Leaves downy or hairy, with narrow, parallel lobes ; outer bracts half the length of the inner. **erucifo'lius.**

Leaves entire, or toothed, but not deeply cut.

Lowest leaves oval, in a rosette, only a few narrow, entire leaves on the stem ; fruits hairy.

campes'tris.

Stem leafy, no rosette ; fruits not hairy.

About 6-8 florets in the "ray" round the flower-head ; leaves almost without hairs.

saracen'icus.

Ray florets 12 or more ; leaves woolly beneath.

Flower-heads with small outer bracts at their base ; leaves sharply toothed.

paludo'sus.

No small bracts outside the main series ; leaves more or less obscurely toothed.

palus'tris.

SILE'NE. (34).

Calyx thin, swollen, with a network of veins all over it (not hairy, the teeth short and wide).

Cucu'balus. *Bladder Campion.*

Calyx not thin and bladdery, nor netted.

Calyx about $\frac{1}{2}$ inch long or less, not hairy, its teeth bluntish.

Petals pink (or white), notched at the tip ; small, tufted, alpine plant.

Acau'lis. *Moss Campion.*

Petals greenish yellow, not notched ; stem tall.

Oti'tes. *Spanish Catchfly.*

Calyx about $\frac{1}{2}$ inch long or more, hairy, its teeth acute or very narrow.



[Calyx with 25-30 very distinct ribs, its base much swollen after flowering.]

conica.



[Calyx with 10 ribs.

Flowers drooping: calyx with purplish ribs, and widish, acute teeth.

nuntans. *Norwingham Cat. h. fy.*

[Flowers erect: calyx with greenish ribs, and narrow teeth.

[Calyx about $\frac{1}{2}$ inch long, very hairy: petals not, or only slightly, notched at the tip.]

gallica.

[Calyx an inch long: petals deeply cleft at the tip.]

noctiflora.



SISYMBRIUM (43).

[Leaves divided up, throughout their whole length, into fine, narrow segments.]

Sophia. *Flixweed.*



[Leaves only partially divided.]

[Pods about $\frac{1}{2}$ inch long, tapering from their base upwards, downy, on very short stalks, pressed close against the stem.]

officinale. *Hedge Mustard.*

[Pods $1\frac{1}{2}$ -2 inches long, slender, not hairy, on spreading stalks.]

Irish. *London Rocket.*



SILVUM (59).

[Leaves long, evenly and not deeply toothed: umbels mostly at the end of the stem.]

latifolium. *Great Water Parsnip.*

[Leaves unevenly and deeply toothed: umbels mostly from the side.]

angustifolium. *Water Parsnip.*



SOLANUM (3, 5, 17, 26).

[Flowers purple: leaves oval or heart-shaped, entire, or with one or two little lobes or leaflets at their base: climbing plant.]

Dulcamara. *Bittersweet.*

[Flowers white: leaves with bluntish, angular lobes: plant not climbing.]

ni-grum.



SON'CHUS. (38).

[Flower-stalks, and base of the bracts round the flower-heads, covered with gland-tipped hairs.]

[Field plant; heads 1-1½ inch across; leaves with short, wide auricles at their base.]

arven'sis. *Corn Sowthistle.*

[Rare marsh plant; heads ¾-1 inch; leaves with narrow, pointed auricles.]

palus'tris.

[Flower-stalks and bracts with few, scattered hairs, or none; heads under 1 inch across.]

olera'ceus. *Common Sowthistle.*

**SPARGA'NIUM.** (14, 18, 23).

[Plant with branches, each of which bears more than one head of ovaries or stamens.]

ramo'sum. *Bur-reed.*

[Plant without branches, the heads all attached (with or without stalks) to the main stem.]

[Stem and leaves usually erect; several upper heads bearing stamens.]

sim'plex.

[Leaves floating; usually only a single head with stamens.]

min'imum.

**SPIRAE'A.** (55, 56).

[Leaves oval or oblong, toothed, not divided into leaflets; a shrub.]

salicifo'lia.

[Leaves divided into leaflets; herbs.]

[Leaves with rather few, wide leaflets, white underneath; flowers scented.]

Ulma'ria. *Meadow-sweet.*

[Leaves with numerous, narrow leaflets, not white underneath; flowers scarcely scented.]

Filipen'dula. *Dropwort.*

**SPIRAN'THES.** (52).

[Flowering-stem with only little scale-like leaves, with or without a tuft of short leaves at its side. (Left-hand figure).]

autumna'lis. *Lady's Tresses.*

[Flowering stem with narrow leaves, 2-5 inches long, surrounding its base. (Right-hand figure).]

aestiva'lis.



STA'CHYS. (48).

[Corolla scarcely longer than the lobes of the calyx ;
leaves bluntish.

arven'sis.

[Corolla much longer than the calyx.

[Flowers crowded close to the top of the stem ; lower
part of the calyx (almost) without hairs.

Beton'ica. *Betony.*

[Flowers spreading down the stem ; calyx hairy.

[Leaves white with long, felted hairs, especially on
the under side.

german'ica.

[Leaves green, hairs scattered, not felted.

[Leaves wide, heart-shaped, stalked ; plant with a
very disagreeable smell.

sylvat'ica. *Hedge Woundwort.*

[Leaves rather narrow, without (or with very
short) stalks. **palus'tris.** *Marsh Woundwort.*

STAT'ICE. (32).

[Leaves 2-6 inches long, widish, with faint, but distinct,
lateral nerves diverging from the mid-rib.

Limo'nium. *Sea Lavender.*

[Leaves rarely 2 inches, without diverging nerves.

[Nearly all the branches with flowers, which have green
bracts under them.

auriculaefo'lia.

[Flowerless branches numerous, much twisted ; bracts
under the flowers scaly.

reticula'ta.

auric. retic.

STELLA'RIA. (35).

[Lower leaves distinctly stalked.

[Stem with a line of hairs down one side only ; flowers
small, the petals usually short.

me'dia. *Chickweed.*

[Stem hairy all round.

[Styles (in most of the flowers) 5 ; hairs on the stem
more or less sticky.

aquat'ica.

[Styles 3 in all the flowers ; few or none of the hairs
sticky.

nem'orum.

[None of the leaves stalked.

{ Petals divided to about the middle, much longer than the sepals, which are only faintly nerved.

Holos'tea. *Stitchwort.*

{ Petals divided nearly to their base; sepals strongly 3-nerved.

{ Leaves short, tapering at each end, slightly thickened at their tip; petals shorter than the sepals.

uligino'sa.

{ Leaves long and narrow; petals as long as sepals.

{ Bracts under flower-stalks fringed at margin near their base. **gramin'ea.** *Lesser Stitchwort.*

{ Bracts not fringed; petals often much longer than the sepals. **palus'tris.**



SUAE'DA. (35).

{ Stem woody; leaves scarcely $\frac{1}{2}$ inch long, rather abruptly narrowed at base and apex; styles 3.

frutico'sa.

{ Stem not woody; leaves often an inch or more, gradually tapering; styles 2.

marit'ima. *Sea-Blite.*



SYM'PHYTUM. (33).

{ Upper leaves running down in distinct wings on the stem; stem 2 or 3 feet, usually branched.

officina'le. *Comfrey.*

{ Upper leaves not, or only slightly, running down; stem about a foot high, rarely branched. **tubero'sum.**



TEU'CRUM. (47).

{ Leaves deeply divided into narrow lobes.

Bo'trys.

{ Leaves toothed, but not deeply cut.

{ Flowers yellowish; upper tooth of calyx very wide; leaves wrinkled on upper surface.

Scorodo'nia. *Wood-sage.*

{ Flowers purplish; teeth of calyx nearly equal.

{ Leaves wedge-shaped and entire near their base, the lower ones more or less distinctly stalked.

Chamae'drys.

{ Leaves on the main stem rounded or heart-shaped at base.

Scor'dium. *Water Germander.*



THALIC'TRUM. (24).

Flowers erect, crowded, on short stalks; stamens with blunt anthers; plant tall.

fla'vum. *Meadow Rue.*

Flowers more or less drooping; stamens with pointed anthers.

(Stem a foot or more, branched, many-flowered; leaflets very numerous in each leaf. **mi'nus.**)

(Stem rarely over 6 inches, not branched; flowers few; leaflets about 10-20. **alpi'num.**)

**THLAS'PI.** (44).

Fruit almost circular, about $\frac{1}{2}$ inch wide.

arven'se. *Mithridate Mustard.*

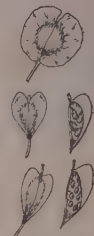
Fruit narrowed towards its base, not $\frac{1}{2}$ inch wide.

(Fruit nearly as wide as it is long, usually with 4 seeds in each half, the style shorter than the notch.

perfolia'tum.

(Fruit narrower, with 6-8 seeds in each half, the style equal to or longer than the notch.

alpes'tre.)

**TRAGOPO'GON.** (37).

Flowers yellow; flower-stalk slightly thickened just below the flower-head.

praten'sis. *Yellow Goat's-beard.*

Flowers purple, the stalk much thickened below the flower-head.

porrifo'lius. *Salsify.*

**TRIFO'LIUM.** (54).

Flowers yellow, small, corolla scarcely $\frac{1}{8}$ inch.

(Heads with 25-50 flowers; upper petal ("standard") much furrowed when faded, not folded together.

procum'bens. *Hop Trefoil.*

Flowers 2-20; standard folded when faded.

(Flowers about 8-20 in each head, on little stalks much shorter than the calyx.

mi'nus.

(Flowers about 2-5 in each head, their stalks as long as the undivided part of the calyx.

filifor'me.)

Flowers not yellow (or large and cream-coloured).



Flowers on stalks nearly as long as the calyx.

[Stem creeping and rooting; stipules shortly pointed;
calyx-teeth widish, unequal.

re'pens. *Dutch Clover.*

[Stem erect; stipules with long, tapering points;
calyx teeth slender, nearly equal.

hyb'ridum. *Alsike Clover.*

Flowers almost or quite without separate stalks.

Corolla about $\frac{1}{2}$ inch long, or more.

[Flower-heads with 2-5 flowers only, bent down
and burrowing in the ground after flowering.

subterra'neum.

Heads with numerous flowers.

[Free part of stipules blunt or broad pointed.

[Heads elongated; calyx teeth shorter than
corolla. **incarna tum.** *Crimson Clover.*

[Heads roundish; calyx teeth very hairy,
longer than the corolla, spreading wide
after flowering. **stella'tum.**

[Free part of stipules narrowly pointed.

[Stipules wide, thin, veined, only free for $\frac{1}{2}$ of
their length; heads not, or only shortly,
stalked above the leaves (as a rule).

praten'se. *Red Clover.*

[Stipules half free; heads all stalked.

[Flowers purple red; calyx hairy inside its
throat, but not swollen.

me'dium. *Zigzag Clover.*

[Flowers salmon or cream; throat of calyx
almost closed by swellings within.

[Calyx-teeth wide, scarcely unequal;
flowers pale salmon. **marit'imum.**

[Calyx-teeth narrow, one tooth much
elongated; flowers cream-coloured.

ochroleu'cum. *Sulphur Clover.*

Corolla $\frac{1}{2}$ inch long or less; heads small.

[Calyx inflated and membranous after flowering.

[A circle of bracts (as long as the calyces) where
the stalk joins the flower-head.

fragil'erum. *Strawberry Clover.*

[Bracts minute; flowers with the largest petal
("standard") undermost. **resupina'tum.**

[Calyx not inflated after flowering.



Plant, and calyx, quite without hairs.

Flower-heads all crowded close to the root, at the base of the leaf-stalks.

suffoca'tum.

Heads along, or at the end of, the stem.

Calyx-teeth slender, as long as the corolla: heads stalked above the leaves: (Cornwall).

stric'tum.

Calyx-teeth wide, shorter than the corolla, spreading widely after flowering: heads not stalked.

glomera'tum.

Plant, and calyx, more or less hairy.

Flower-heads stalked above the leaves.

Heads whinoric: corolla almost hidden by the slender, hairy calyx-teeth.

arven'se. Hare's-foot Trefoil.

Heads shortly oval: calyx-teeth wide, stiff, shorter than the corolla.

marit'imum.

Heads not stalked above the leaves.

Veins of leaflets curved backwards near the margin: calyx-teeth stiff and spreading in fruit.

sca'brum.

Veins straight: calyx-teeth erect or nearly.

Stipules of upper leaves much dilated: calyx swollen and strongly ribbed after flowering.

stria'tum.

Stipules all narrow: calyx scarcely changed (Cornwall).

Bocco'ni.

TRIGLO'CHIN. (15).

Stigmas 3: fruits 3-sided, made up of 3 conjoined segments or "carpels."

palus'tre. Arrow-grass.

Stigmas 6: fruits more swollen, 6-sided, made up of 6 carpels.

marit'imum.

TUSSILA'GO. (39, 41).

Flower-heads yellow, the outer florets radiating: leaf-stalk round, with one groove in front.

Far'fara. Coltsfoot.

Heads pink or purplish, not radiating: leaf-stalk furrowed all round.

Petasi'tes. Butterbur.



TY'PHA. (23).

- { Spike not, or scarcely, divided into two parts. **latifo'lia.** *Greater Reed-mace.* }
 { Spike in two distinct parts, with about an inch between. **angustifo'lia.** *Lesser Reed-mace.* }

**U'LEX.** (4, 53).

- { Calyx with spreading hairs, the little bracts below it nearly $\frac{1}{8}$ inch long; spines rough. **europae'us.** *Furze, Gorse.* }
 { Calyx with short hairs pressed close to surface; bracts minute; spines smooth. **na'nus.** *Dwarf Furze.* }

**UL'MUS.** (8).

- { Seed-cavity chiefly above the middle of the fruit, and near the notch; leaves about $1\frac{1}{2}$ –3 inches. **campes'tris.** *Common Elm.* }
 { Seed-cavity chiefly below the middle, far from the notch; leaves about 3–5 inches. **monta'na.** *Wych Elm.* }

**URTI'CA.** (22).

- { Flowers (some of them) collected in spherical heads. **pilulif'era.** *Roman Nettle.* }
 { Flowers not in globular heads. **dioi'ca.** *Common Nettle.* }
 { Flowers in long, branched clusters; leaves widest near their base, hairy. **u'rens.** }
 { Flowers in short clusters; leaves widest near their middle, almost without hairs, except the large stinging ones. }

**UTRICULA'RIA.** (11, 19).

- { Bladders borne on the segments of the leaves. **pilulif'era.** *Roman Nettle.* }
 { Leaves 1–2 inches long; flowers with a projecting "palate," and a longish, conical spur. **vulga'ris.** *Bladderwort.* }
 { Leaves $\frac{1}{8}$ – $\frac{1}{2}$ inch long; spur scarcely longer than it is wide; palate almost flat. **mi'nor.** }
 { Bladders on separate branches from the leaves; flowers with a spur nearly equalling the under lip. **interme'dia.** }



VACCINIUM. (46).

Leaves with recurved margins ; berries red.

Leaves with dark spots on their under surface ; corolla shortly toothed.

Vitis-idae'a. *Cowberry.*

Leaves not spotted on their under surface ; corolla deeply divided into 4 narrow lobes.

Oxycoc'cos. *Cranberry.*

Leaves flat ; berries blue-black.

Leaves toothed round their margin ; twigs green, strongly furrowed.

Myrtil'lus. *Bilberry.*

Leaves with an entire margin ; twigs not furrowed ; in bogs and wet places.

uligino'sum.

**VALERIA'NA.** (61).

Leaves all divided into several pairs of leaflets ; plant tall.

officina'lis. *Cat's Valerian.*

Lower leaves not divided into leaflets.

Stem 6-8 inches ; leaves (or their segments) not toothed.

dioi'ca.

Stem 2-4 feet ; leaves (or their terminal segment) large, wide, and toothed.

pyrena'ica.

**VALERIANEL'LA.** (61).

Fruit with a one-sided projecting border at its summit, formed by the calyx.

Fruit narrow, with a flattened face, surrounded by a raised rib.

denta'ta.

Fruit broad, not flattened, showing 2 large, empty cells when cut across.

Auric'ula.

Fruit with no perceptible projection at the top.

Fruit (almost) as broad as it is long, scarcely hollowed on its surface.

olito'ria. *Lamb's Lettuce.*

Fruit longer than it is wide, with a deep, oval hollow on one face.

carina'ta.



VERBAS'CUM. (21, 27).

Hairs on the stamens white.

[Leaf-margins running down the stem in two wings ; 2 longest stamens without hairs ; flowers without stalks. **Thap'sus.** *Great Mullein.*]

[Stem not winged ; all stamens hairy ; flowers stalked.

[Leaves green and scarcely woolly on their upper surface ; flowers pale cream. **Lychni'tis.** *White Mullein.*]

[Leaves felted with white wool ; flowers bright-yellow. **pulverulen'tum.** *Hoary Mullein.*]

Hairs on the stamens purple.

[All the stamens similar ; leaves woolly, at least on their under surface. **ni'grum.** *Dark Mullein.*]

[2 stamens longer ; leaves almost without hairs.

[Flower-stalks longer than the calyx, one to each bract. **Blatta'ria.** *Moth Mullein.*]

[Flower-stalks shorter than the calyx, mostly 2-6 to each bract. **virga'tum.**]

VERON'ICA. (21, 26).

[Flowers clustered on special leafless branches, from the angle of a leaf, with only very small bracts under each flower. **Group 1.**]

[Flowers each attached directly, by its own stalk, to the main leafy divisions of the stem. **Group 2.**]

Group 1.

[Leaves gradually tapering at their apex.

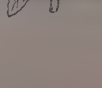
[Flowers pinkish ; only one flowering branch to each pair of leaves ; fruit deeply notched, much longer than the sepals. **scutella'ta.**]

[Flowers pale-blue ; flowering branches in pairs ; fruit slightly notched, not longer than the sepals. **Anagal'lis.** *Water Speedwell.*]

[Leaves blunt, or with short, acute points.

[Plant not hairy, of wet places ; leaves rather thick, bluntish, rounded at both ends. **Beccabun'ga.** *Brooklime.*]

[Plant and leaves hairy.



[Leaves narrowed towards their base ; flower-stalks very short;

officina'lis. *Common Speedwell.*

[Leaves wide at base ; flower-stalks slender.

[Hairs on the stem in 2 opposite lines ; fruit shorter than the calyx.

Chamae'drys. *Germander Speedwell.*

[Stem hairy all round ; fruit twice as long as the calyx.

monta'na.

Group 2.

[Leaves not hairy, small, bluish, often nearly entire ; fruit with a long style.

serpyllifo'lia.

[Leaves hairy, most of them toothed or lobed.

[Most of the leaves with 3 or 5 lobes or teeth.

[Leaves large, the lower stalked, with about 5 lobes ; sepals heart-shaped at base, especially in fruit.

hederaefo'lia.

[Leaves small, mostly 3-lobed ; sepals narrow.

[Corolla dark-blue ; fruit-stalks longer than the calyx.

triphyll'los.

[Corolla pale ; fruit-stalks shorter than the calyx.

ver'na.

[Leaves with 7 or more teeth.

[Flower-stalks much shorter than the calyx.

[Plant small ; leaves with few teeth ; fruit notched, with a very short style.

arven'sis.

[Plant tall ; leaves with numerous teeth ; fruit scarcely notched, its style very long.

spica'ta.

[Flower-stalks longer than the calyx.

[Corolla $\frac{1}{4}$ – $\frac{1}{2}$ inch ; fruit flattened, with a wide notch between the lobes.

Buxbau'mii.

[Corolla about $\frac{1}{4}$ inch ; fruit swollen, scarcely flattened, the notch between its lobes quite small.

agres'tis.

VIBUR'NUM. (6).

[Leaves lobed, not hairy, with 2 or more slender stipules on the stalk ; outer flowers enlarged.

Op'ulus. *Guelder Rose.*

[Leaves toothed, wrinkled, hairy, without stipules ; all the flowers of the cluster similar.

Lanta'na. *Wayfaring-tree.*



VIC'IA. (53).

- Leaves with 1, 2, or 3 pairs of leaflets.
- (Lower leaves with 1 pair of leaflets, upper ones with 2 narrow pairs; flowers purplish, the lateral petals white. **bithyn'ica.**)
 - (All the leaves with 2 or 3 pairs of leaflets.
 - (Flowers singly, almost without stalks, close down at the base of the leaf stalk. **lathyroi'des.**)
 - (Flowers in stalked clusters. (see) **Lath'yrus.**)
 - (Leaves (mostly) with 4 or more pairs of leaflets.
 - (Flowers on very short stalks, or in shortly stalked clusters, at the base of the leaf-stalk.
 - (Flowers yellow, rarely 2 together; pod hairy. **lu'tea.**)
 - (Flowers red or purple.
 - (Flowers singly or 2 together only. **sati'va.** *Common Vetch.*)
 - (Flowers in clusters of 3 or more together, on a short stalk. **se'pium.** *Bush Vetch.*)
 - (Flowers, or clusters of flowers, on long stalks.
 - (Flowers about $\frac{1}{2}$ inch; plant very slender.
 - (Corolla not twice as long as the hairy calyx; pod with only 2 seeds. **hirsu'ta.** *Hairy Tare.*)
 - (Corolla more than twice as long as the (nearly) smooth calyx; pod with about 4 seeds. **tetrasper'ma.** *Smooth Tare.*)
 - (Flowers about $\frac{1}{2}$ inch, or more.
 - (Leaf-stalk ending in a short point. **Or'obus.** *Bitter Vetch.*)
 - (Leaf-stalks ending in a tendril.
 - (Stipules wide, almost like the leaflets; flowers purple. **Lath'yrus marit'imus.**)
 - (Stipules quite unlike the leaflets
 - (Flowers pale, veined with purple; stipules with long, narrow teeth. **sylvat'ica.** *Wood Vetch.*)
 - (Flowers blue purple; stipules not narrowly toothed. **Crac'ca.** *Tufted Vetch.*)



VIN'CA. (27).

Leaves wide at their base, with hairy margins : calyx-segments long and slender : flowers large.

ma'jor. *Larger Periwinkle.*

Leaves narrowed at their base, not hairy : calyx-segments short : flowers scarcely an inch across.

mi nor. *Lesser Periwinkle.*



VIOLA. (19).

Sepals blunt : leaves apparently all from the root.

Leaves kidney-shaped, without hairs : flowers small, scentless.

palus tris. *Marsh Violet.*

Leaves more or less hairy at their margins.

Flowers scented, with a short, blunt spur at their base : leaves roundish-heart-shaped.

odora'ta. *Sweet Violet.*

Flowers almost scentless, with a longish spur : leaves triangular-heart-shaped, rather more hairy.

hir'ta.

Sepals pointed : plant with a leafy stem.

Stipules large, leaf-like, deeply divided : flowers often yellow, or variegated.

tri'color. *Pansy, Heartsease.*

Stipules small, scarcely leaf-like, toothed : flowers violet or pale.

Whole plant, and fruit, without hairs (or nearly so) : leaves more or less oval or heart-shaped.

cani'na. *Dog Violet.*

Plant and fruit hairy : leaves small, roundish, rather blunt : Teesdale and Westmoreland.

arena'ria.



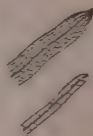
ZOSTE RA. (14).

Leaves 9-30 inches long, often $\frac{1}{2}$ inch wide, with 3-7 longitudinal nerves.

mari na. *Grass-wrack.*

Leaves 3-6 inches long, about $\frac{1}{2}$ inch wide, with only a single nerve (rarely 3).

na'na.



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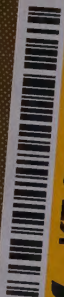
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MEMORANDA.

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